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Community Impacts Assessment

North Houston Highway Improvement Project

From US 59/I-69 at Spur 527 to I-45 at Beltway 8 North
CSJ 0912-00-146

Prepared by: TxDOT Houston District
Date: August 2020

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327, and a Memorandum of Understanding dated December 9, 2019, and executed by FHWA and TxDOT.

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1 INTRODUCTION

A community impacts assessment (CIA) is “a process to evaluate the effects of a transportation action on a community and its quality of life” (Federal Highway Administration [FHWA] 1996). Through this process, community considerations are incorporated into the planning and development of major transportation projects. This CIA Technical Report documents the assessment of the potential social and economic effects of the Preferred Alternative for the proposed North Houston Highway Improvement Project (NHHIP), as required under the National Environmental Policy Act (NEPA), and includes an evaluation of how the proposed project would affect nearby communities. The Preferred Alternative was developed in consideration of comments received on the Draft Environmental Impact Statement (EIS) and continuing coordination with the public, agencies, and other stakeholders. The assessments in this CIA consider project design changes, comments on the Draft EIS, and include some updated data and methodologies for assessing impacts.

This CIA has been prepared under the FHWA’s policies and procedures in Section 771 of Title 23 of the Code of Federal Regulations; the FHWA publication *Community Impact Assessment: A Quick Reference Guide*; FHWA’s Technical Advisory (TA) 6640.8A: *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*; and the Texas Department of Transportation’s (TxDOT) *Environmental Handbook: Community Impacts, Environmental Justice, Limited English Proficiency and Title VI Compliance* (January 2015).

This CIA Technical Report is an update to the March 2017 NHHIP CIA Technical Report and supports the Final EIS that assesses the social, economic, and environmental impacts potentially resulting from the Preferred Alternative for the proposed project. The March 2017 CIA Technical Report discusses the impact evaluation for the Reasonable Alternatives (three alternatives for each project segment). The alternative analysis in that report is incorporated in this report by reference. The 2017 CIA Technical Report is available on the project website at: http://www.ih45northandmore.com/draft_eis.aspx.

The Preferred Alternative was selected because it best implements an integrated system of transportation improvements that would provide a facility with additional capacity in the I-45/Hardy Toll Road corridor for projected travel demand by incorporating transit opportunities, travel demand and management strategies, and flexible operations. Such a facility would help manage congestion, improve mobility, enhance safety, and provide travelers with options to reach their destinations. Segment 3, Alternative 11 would provide the greatest improvement to mobility by increasing travel speeds around the Downtown Loop System by 20 to 25 miles per hour (mph). The increased travel speeds would be achieved by means of reconfiguring the Downtown Loop System, which would allow through traffic to bypass Downtown via the I-10 express lanes and the I-45 general purpose lanes on the east side of Downtown.

Through the years of study for the NHHIP, numerous alternatives were developed and analyzed. Section 2 of the Final EIS provides detailed information about the alternative

analysis process and the results of the evaluation at each level of screening. After consideration of a range of alternatives and the public, agency, and other stakeholder input throughout the study process, three alternatives for each project segment were determined by TxDOT to best meet the need and purpose for the proposed project, while also considering engineering, traffic, and environmental factors. The three alternatives per segment to be carried forward for further development were presented as the “reasonable alternatives”. At that time, in late 2013, the Segment 1 reasonable alternative eventually identified by TxDOT as the Preferred Alternative (Alternative 4) had the least direct impacts to residential properties, community facilities, and commercial properties, of the three alternatives. The Segment 2 reasonable alternative eventually identified by TxDOT as the Preferred Alternative (Alternative 10) had the same impact to residential and commercial properties as the other two alternatives, and no direct impact to community facilities. The Segment 3 reasonable alternative eventually selected to be the Preferred Alternative (Alternative 11, realignment of I-45) had slightly more impacts to residential properties – 7 parcels as compared to 4 and 5 parcels for the other two alternatives; more impacts to commercial properties - 46 parcels as compared to 18 and 29 parcels for the other two alternatives; and no direct impact to community facilities.

The reasonable alternatives were developed and analyzed in more detail between 2013-2017. Over time, with continuing public input and more detailed analysis, the schematic design was revised and became more detailed, resulting in identification of additional right-of-way needed for the Proposed Recommended Alternatives, particularly in the area of the interchanges, as documented in the Draft EIS. As a result of the refinement of the schematic design for the Proposed Recommended Alternatives since their selection in 2015, including proposed realignment (straightening) of I-10 and US 59/I-59 to eliminate the current roadway curvature to improve safety and traffic flow in the north and east portions of Segment 3, as well as a more detailed impact analysis than was performed in previous screenings of the alternatives, the impacts of the Preferred Alternative to community resources, including protected populations, are documented to be more adverse than the impacts of the other alternatives for Segments 1, 2, and 3 when the other alternatives were considered in 2015. However, TxDOT did not refine the schematic designs for the eliminated alternatives (the alternatives other than the Proposed Recommended Alternatives), nor has TxDOT performed a more detailed impact analysis for the eliminated alternatives. Refinement of the schematic designs and a more detailed impact analysis for the eliminated alternatives would have increased the adverse impacts of those alternatives, as it did for the Proposed Recommended Alternative. However, TxDOT has made a number of commitments to substantially reduce the effects of the project on minority and low-income populations related to relocation of residents and facilities, affordable housing, local access, safety, traffic noise, air quality, and homelessness. In some of these areas there would be improvements over the existing conditions such as new facilities for the residents of Clayton Homes and Kelly Village, restoring local access in the area around the I-45/I-610 interchange, and improving safety (e.g., improved pedestrian and bicycle accommodations) on cross streets in neighborhoods. A

substantial amount of the adverse effects of the project would be minimized and mitigated through a variety of commitments and programs that will be implemented by TxDOT (see Sections 5 and 6 in this report).

1.1 Public Involvement and Agency Coordination

TxDOT has conducted continuous public involvement and agency coordination for the NHHIP for more than eight years, including public and neighborhood meetings in the most directly impacted neighborhoods. In 2011, TxDOT began preparation of the Environmental Impact Statement (EIS). Public involvement and agency coordination for the EIS included scoping meetings, public meetings, a public hearing, and more than 300 meetings with stakeholders along the project corridor.

Appendix A of this technical report contains a summary of public involvement and agency coordination for the project, including efforts that preceded initiation of the current schematic design and environmental documentation phase of project development in 2011. Since the beginning of the project, the project purpose and need, alternatives, and mitigation have been refined as a result of feedback from the impacted communities, local government and other agencies, and other stakeholders.

During the study process, TxDOT has provided accurate and timely information, proactively sought early and continuing public input and involvement, and has been responsive to inquiries and suggestions. Input from all stakeholders has been reviewed and considered. TxDOT has initiated and participated in proactive efforts to ensure meaningful opportunities for public participation including activities to increase low-income and minority participation. Based on comments received on the Draft EIS, including those received at the May 2017 public hearing, the Proposed Recommended Alternative presented in the Draft EIS was revised and is presented as the Preferred Alternative in the Final EIS.

2 PROJECT DESCRIPTION

TxDOT proposes to construct improvements to I-45 in the northern portion of the city of Houston. The proposed project, referred to as the NHHIP, begins at the interchange of I-45 and Beltway 8 North and continues south along I-45 to Downtown Houston where it terminates at the interchange of United States Highway (US) 59/I-69 and Spur 527 south of Downtown Houston. The project area also includes portions of I-10 and US 59/I-69 near Downtown Houston. The project area is composed of three study segments, Segments 1 through 3 (Figure 2-1). The proposed improvements are described in Section 2.2.

Project study segments generally include:

- Segment 1: I-45 between Beltway 8 and I-610
- Segment 2: I-45 between I-610 and I-10
- Segment 3: I-45 between I-10 and US 59/I-69, I-10 from I-45 to US 59/I-69, US 59/I-69 from I-10 to I-45 (Downtown Loop System), and US 59/I-69 to Spur 527

A complete set of schematic plans is available on the NHHIP project website (<http://www.ih45northandmore.com/>).

The schematic plans for the Preferred Alternative include design changes after the May 2017 public hearing. Several examples of the design changes are listed in Appendix B, including a brief description of the design change, the commenter or other reason for the change, the super neighborhood in the area of the change, and if it is an environmental justice area (low income and/or high minority).



1

2

Figure 2-1: NHIP Corridor and Project Segments

2.1 Existing Facility

2.1.1 Segment 1: I-45 from Beltway 8 North to north of I-610 (North Loop)

I-45 within this segment consists of eight general purpose lanes (i.e., mainlanes; four lanes in each direction), four to six frontage road lanes (two to three lanes in each direction), and a reversible high occupancy vehicle (HOV) lane in the middle, all within a variable right-of-way width of 250 to 300 feet. The existing posted speed limit along the general purpose lanes and reversible HOV lane is 60 mph. The existing posted speed limit for the frontage roads is 45 mph. The length of Segment 1 is approximately 8.8 miles, and the area of the existing right-of-way is approximately 349 acres.

2.1.2 Segment 2: I-45 from north of I-610 (North Loop) to I-10 (including the interchange with I-610)

I-45 within this segment primarily consists of eight at-grade general purpose lanes (four lanes in each direction), four to six frontage road lanes (two to three lanes in each direction), and a reversible HOV lane in the middle, all within a variable right-of-way width of 300 to 325 feet. Segment 2 also includes a depressed Section that consists of eight general purpose lanes (four lanes in each direction) and a reversible HOV lane in the middle, all below grade, within a 245-foot right-of-way. The frontage road lanes associated with the depressed Section are located at-grade. The existing posted speed limit is 60 mph along the general purpose lanes, 55 mph along the reversible HOV lane, and 40 mph along the frontage road lanes. The I-45 and I-610 frontage roads are discontinuous at the I-45/I-610 interchange. The length of Segment 2 is approximately 4.5 miles, and the area of the existing right-of-way is approximately 220 acres.

2.1.3 Segment 3: Downtown Loop System (I-45, US 59/I-69, and I-10)

The Downtown Loop System consists of three interstate highways that create a loop around Downtown Houston. I-45 forms the western and southern boundaries of the loop and is known locally as the Pierce Elevated because it partially follows the alignment of Pierce Street. I-10 forms the northern boundary of the loop, and US 59/I-69 forms the eastern boundary of the loop. The loop includes three major interchanges: I-45 and I-10, I-10 and US 59/I-69, and US 59/I-69 and I-45. The interchange of US 59/I-69 and Spur 527 is located southwest of Downtown Houston.

I-45 along the western and southern sides of Downtown consists of six elevated general purpose lanes (three lanes in each direction) within a variable right-of-way that is typically 205 feet to 320 feet wide. I-10 north of Downtown, between I-45 and US 59/I-69, consists of six general purpose lanes (three lanes in each direction) within an existing right-of-way width of 420 feet. US 59/I-69 along the east side of Downtown consists of six general purpose lanes (three lanes in each direction) within an existing right-of-way width of 225 feet. US 59/I-69 south of Downtown from I-45 to Spur 527 has eight general purpose lanes (four in each

direction). Generally, local streets serve as one-way frontage roads within Segment 3, except near the I-10 and US 59/I-69 interchange, where the frontage roads are discontinuous. The length of Segment 3, which includes the Downtown Loop System, is approximately 13.1 miles, and the existing right-of-way is approximately 638 acres.

2.2 Proposed Facility

The Preferred Alternative for the proposed project is described below by study segment. The Preferred Alternative includes changes to the Recommended Alternative (for each segment) presented and evaluated in the Draft EIS. Section 2.0 of the Final EIS discusses the design changes, including the proposed locations of storm water detention areas.

2.2.1 Segment 1: I-45 from Beltway 8 North to north of I-610 (North Loop)

The Preferred Alternative would widen the existing I-45 primarily on the west side of the roadway to accommodate four managed express (MaX) lanes. The proposed typical Section would include eight to ten general purpose lanes (four to five lanes in each direction), four MaX lanes (two lanes in each direction), and four to six frontage road lanes (two to three lanes in each direction). The general purpose lanes and MaX lanes would be at-grade except at major cross streets, where they would be elevated over the intersecting streets. Approximately 200 to 225 feet of new right-of-way would be required for the roadway widening, mostly to the west of the existing I-45. New right-of-way would also be required on the west side of I-45 for proposed storm water detention areas. New right-of-way would be required to the east of the existing I-45 right-of-way at intersections with major streets and between Crosstimbers Street and I-610. Approximately 246 acres of new right-of-way would be required in Segment 1.

2.2.2 Segment 2: I-45 from north of I-610 (North Loop) to I-10 (including the interchange with I-610)

The Preferred Alternative would widen the existing I-45 to accommodate four MaX lanes. The proposed typical Section would include ten general purpose lanes (five lanes in each direction), four MaX lanes (two lanes in each direction), and four to six frontage road lanes (two to three lanes in each direction). From north of Cottage Street to Norma Street, the general purpose lanes and the Max lanes would be depressed, while the frontage road lanes would be at-grade. The proposed I-45 and I-610 frontage roads would be continuous through the I-45/I-610 interchange. New right-of-way would be required from both the east and west sides of the existing I-45. The new right-of-way would include proposed storm water detention areas on the east side of I-45, south of Patton Street. Approximately 44 acres of new right-of-way would be required in Segment 2.

The Preferred Alternative provides a highway “cap” over a portion of the depressed lanes of I-45 from north of Cottage Street to south of N. Main Street. Future development and use of the highway cap for another purpose would require additional development and funding by entities other than TxDOT.

2.2.3 Segment 3: Downtown Loop System: (I-45, US 59/I-69, and I-10)

The Preferred Alternative would reconstruct all the existing interchanges in the Downtown Loop System and reroute I-45 to be parallel to I-10 on the north side of Downtown and parallel to US 59/I-69 on the east side of Downtown. Access to the west side of Downtown would be provided via “Downtown Connectors” that would consist of entrance and exit ramps for various Downtown streets. A Section of the Downtown Connectors would be below-grade (depressed) between approximately W. Dallas Street to Andrews Street. The existing elevated I-45 roadway (Pierce Elevated) along the west and south sides of Downtown would be removed. The portion of I-45 between Brazos Street and US 59/I-69 could be left in place for future use and redevelopment by others; however, this is not proposed by TxDOT and is not evaluated in the Final EIS.

To improve safety and traffic flow in the north and east portions of Segment 3, portions of both I-10 and US 59/I-69 would be realigned (straightened) to eliminate the current roadway curvature. I-45 and US 59/I-69 would be depressed along a portion of the alignment east of Downtown. South of the George R. Brown Convention Center, the rerouted I-45 would begin to elevate to tie to existing I-45 southeast of Downtown, while US 59/I-69 would remain depressed as it continues southwest toward Spur 527. US 59/I-69 would be widened from eight to twelve general purpose lanes between I-45 and SH 288, and would be reconstructed to ten general purpose lanes from SH 288 to Spur 527.

The four proposed I-45 MaX lanes in Segments 1 and 2 would terminate/begin in Segment 3 at Milam Street/Travis Street, respectively. I-10 express lanes (two lanes in each direction) would be located generally in the center of the general purpose lanes within the proposed parallel alignment of I-10 and I-45 on the north side of Downtown. The I-10 express lanes would vary between being elevated and at-grade.

New right-of-way to the east of the existing US 59/I-69 along the east side of Downtown would be required to accommodate the proposed realigned I-45. A new continuous southbound access road would be provided adjacent to US 59/I-69 and would tie to existing Hamilton Street on the south side of the Convention Center. The existing St. Emanuel Street would serve as a northbound access road. The project right-of-way would include areas to be developed as storm water detention. Approximately 160 acres of new right-of-way would be required, the majority of which would be for the I-10 and US 59/I-69 realignments (straightening) and to construct the proposed I-45 lanes adjacent to US 59/I-69 along the east side of Downtown.

The Preferred Alternative provides a highway “cap” over the proposed depressed lanes of I-45 and US 59/I-69 from approximately Commerce Street to Lamar Street. There would also be a highway cap over the depressed lanes of US 59/I-69 between approximately Main Street and Fannin Street, and in the area of the Caroline Street/Wheeler Street intersection. Future use of the highway cap areas for another purpose would require additional development and funding by entities other than TxDOT.

3 METHODOLOGY OF ASSESSMENT

The methodology describes basic approaches to assessing community impacts. The assessment considers all communities and community resources that would potentially be impacted by the proposed project. For the various issues and resources addressed in this analysis, the affected environment and impacts were identified based on the potential project impacts to each resource. This Section defines the study area for each technical analysis and identifies the factors considered in the analysis. This assessment is based, in part, on information collected from local, state, and federal databases, participating and cooperating agencies, field surveys, and public input.

This CIA was prepared in consideration of agency and public comments to evaluate issues frequently raised by residents, business owners, other property owners, and other individuals and groups in the project corridor area. Issues raised include community cohesion, quality of life, access to essential services, access to transportation facilities, safety, economic well-being, and impacts to minorities and low-income households.

Data presented in this CIA Technical Report has been updated from data presented in the 2017 NHHIP CIA Technical Report and Draft EIS. Changes in methodology and data sources are discussed in the following sections. In consideration of the updated methodology and data sources, this CIA Technical Report documents the evaluation of the potential impacts to the entire project area, versus only the areas where design changes are proposed.

3.1 Community Profile

The community profile includes population, demographics, economic, and social characteristics of communities that are located along the project corridor. Sensitive or protected populations, such as limited English proficient (LEP) persons, children, elderly, and disabled persons are identified in the community profile in accordance with the FHWA guidelines. The U.S. Census Bureau data tables used for this assessment are included with the references in Section 7.

3.1.1 Population and Demographics

The United States (U.S.) Census Bureau has identified a framework of statistical areas to present demographic and socioeconomic data for specific geographic areas of interest. The data subdivides counties into census tracts, and census tracts into block groups. Census block groups are further subdivided into blocks within the same census tract. The 2010 U.S. Census provides population, racial and ethnic distribution data down to the census block level. Community profile data was collected for census tracts, block groups, and blocks that intersect or that are adjacent to the proposed right-of-way of the Preferred Alternative. Collectively, this census profile area includes 48 census tracts, 78 census block groups, and 1,108 census blocks, with two census tracts overlapping and several block groups overlapping Segment boundaries. The census tracts, block groups, and high minority and

low-income areas are shown in Appendix C, Exhibit C-1. Due to design changes since the Draft EIS, including proposed storm water detention areas, and the extension of the project area to Binz Street on SH 288, census geographic areas were added to or removed from the demographic data of the community profile. Census data is collected every 10 years, and becomes available a year or two after the actual collection. While 2010 data is aging, 2020 data will not be available for some time.

The Houston-Galveston Area Council (H-GAC) 2040 *Regional Growth Forecast* projections were used to determine population growth rates. Growth forecast projections were updated from projections presented in the 2017 NHHIP CIA Technical Report and Draft EIS. Appendix C includes detailed tables of population estimates, race, and ethnicity characteristics for census tracts, block groups, and blocks in the census profile area.

The U.S. Census Bureau conducts the American Community Survey (ACS), which is an annual survey based on a statistical sample of Americans that provides information about social and economic characteristics. ACS data five-year sampling sets are updated every year but the accuracy is affected by the sampling process. Data in the ACS includes median household income, per capita income, families below the poverty guidelines as defined by the U.S. Department of Health and Human Services (HHS) (U.S. Department of HHS 2019), age distribution, disabled population estimates, and LEP populations. The 2012-2016 ACS five-year survey data set was used to update the community profile in Section 3 of this CIA, replacing the 2009-2013 ACS data presented in the 2017 NHHIP CIA Technical Report and Draft EIS. ACS survey data is presented primarily at the census tract and block group levels.

Ethnicity data and median household income for super neighborhood geographic areas is discussed in Section 5 and was developed from U.S. Census Bureau (2010) and ACS 2013-2017 estimates.

3.1.1.1 Children, Elderly, and Disabled Populations

Other protected populations considered in this CIA include children (persons 0 to 19 years of age), elderly (65 years of age and older), and civilian non-institutionalized disabled persons. The U.S. Census Bureau defines a civilian non-institutionalized population as all civilians not residing in institutional group quarters facilities such as correctional institutions, juvenile facilities, skilled nursing facilities, and other long-term care living arrangements. Age distribution data was obtained at the census tract level. Population data for disabled persons was obtained at the census tract level, which is the lowest census geographic area with available data for disabled persons of all ages. Field observations and community input helped to identify facilities utilized by children, elderly, and disabled populations.

3.1.1.2 Limited English Proficiency Populations

Executive Order (EO) 13166, *Improving Access to Services for Persons with Limited English Proficiency* (LEP), requires federal agencies to examine the services they provide, identify needs for services to LEP persons, and develop and implement a system to provide LEP persons with meaningful access to those services (LEP 2015). EO 13166 requires that the

1 federal agencies work to ensure that recipients of federal financial assistance provide
2 meaningful access to their LEP applicants and beneficiaries (LEP 2015).

3 Individuals who do not speak English as their primary language and who have a limited ability
4 to read, speak, write, or understand English can be limited English proficient, or LEP (LEP
5 2015). The 2012 to 2016 ACS provides data on LEP populations at the census block group
6 level. In addition to the ACS data, field observations were used to identify LEP populations and
7 facilities utilized by LEP populations. Evidence of LEP populations includes businesses, places
8 of worship, and signs in languages other than English. LEP census block groups are shown in
9 Appendix C, Exhibit C-2 and the LEP population and primary languages are shown in
10 Appendix C, Table C-2.

11 **3.2 Land Use**

12 The land use assessment evaluates how the proposed project would affect existing land use
13 patterns, proposed developments, and development trends. Land uses were identified within
14 approximately one-half mile of the existing project corridor roadways to document existing
15 development and development patterns in the project vicinity. The area includes land that
16 would be directly impacted by the proposed right-of-way of the Preferred Alternative, and other
17 land in the project vicinity that may have a higher potential for indirect impacts. Direct impacts
18 would include the permanent conversion of existing uses or restricted use of land as a result
19 of the proposed project. Other impacts may include shifts in development patterns and
20 inconsistency with local and regional development plans.

21 Existing land use data for the CIA is based on 2018 Geographic Information System (GIS) data
22 provided by H-GAC (H-GAC 2018), which was updated from the 2015 land use data presented
23 in the 2017 NHHIP CIA Technical Report and Draft EIS. Land uses were further verified with
24 desktop research and field investigations, and revised as needed. Information on future land
25 uses and proposed development was obtained from meetings with various management
26 districts and local agencies. Land uses are shown in Appendix D.

27 Land uses in the project corridor area are categorized as follows:

- 28 ▪ Residential: single-family homes, multi-family units (apartments and duplexes), and
29 mobile homes
- 30 ▪ Commercial: shopping centers, hotels/motels, restaurants, retail stores, and
31 professional office buildings
- 32 ▪ Industrial: manufacturing and production services, warehouses
- 33 ▪ Multiple Use: areas of mixed commercial, residential, or public uses
- 34 ▪ Public Use/Institutional: government services, schools and universities, medical
35 facilities and offices, places of worship or fraternal use, public service centers, public
36 arenas or stadiums, and community centers

- Parks and Open Space: parks, recreational facilities, golf courses, greenways and cemeteries
- Transportation/Utility: transportation and utility right-of-way
- Vacant: vacant land that is developable, including farm land
- Undevelopable: open area owned by the city or county, drainage and storm water detention areas, bayous, and waterbodies
- Unknown

3.3 Neighborhoods and Community Cohesion

Communities may be defined by geographic boundaries, and by individuals or groups of individuals with common characteristics or interests such as a religion, ethnicity, or income level (FHWA 1996). Cohesion represents the ability of individuals to interact with each other and to be recognized as one common group. Residents may develop a sense of community cohesion through social interaction, use of community facilities, or participation in neighborhood organizations. Community facilities such as schools, hospitals, places of worship, public parks, and activity centers provide common resources that help sustain community cohesion. Transportation and land use planning decisions can affect community cohesion by introducing barriers or limiting access to parts of a community, thus dividing the community or, conversely, by facilitating access to connect communities.

The community cohesion status for each segment study area is based on many factors, including but not limited to field observations of pedestrian activity, conditions of houses and buildings, number and type of community facilities, local businesses, accessibility to community facilities and services, and neighborhood studies and plans. Additionally, comments collected during the public meetings, stakeholder meetings, and a public hearing were used to identify specific community values and concerns from residents and local business owners.

Communities in the proposed project area are referred to as “super neighborhoods”, which are geographically designated areas that are divided by major physical features and share common characteristics. Existing conditions and potential impacts to community cohesion were evaluated for each super neighborhood. Direct impacts to community resources were evaluated for facilities in the proposed right-of-way of the Preferred Alternative, as well as indirect impacts to surrounding community facilities. Potential impacts to community cohesion include displacement of residences and businesses, loss of community facilities, disconnection between neighborhoods, and increased noise and visual impacts. Conversely, the proposed action may have positive effects that reduce noise and visual barriers. Neighborhood facilities data was obtained from the City of Houston GIS files (City of Houston 2016a), City of Houston super neighborhood factsheets (City of Houston 2017a), Environmental Systems Research Institute (ESRI) GIS files (ESRI 2017), and H-GAC GIS files (H-GAC 2018), and verified through additional field surveys. Potential noise impacts are based

on the NHHIP Traffic Noise Technical Report. Neighborhood and community facilities data was updated from what was presented in the 2017 NHHIP CIA Technical Report and Draft EIS due to the identification of additional facilities to be considered by the study team. For example, the proposed NHHIP would displace Temenos Place Apartments II, which was not identified in the Draft EIS.

3.3.1 Parks, Open Space, and Hike and Bike Trails

The evaluation of impacts to parks, open space, and hike and bike trails includes the assessment of direct impacts and indirect impacts (noise and visual), including to open space areas along the bayous. Open space areas are any piece of land that is undeveloped (no buildings or other built structures) and usually accessible to the public. These can include green space, which includes parks and other areas of grass, trees, or other vegetation. For this analysis, open space areas along “bayou greenways” are characterized as a clearing or undeveloped area that is accessible to the public with little or no obstructions to the view of the skyline. Bayou greenways are being developed by a public-private initiative spearheading by the Houston Parks Board, and involve the construction of bikeways and amenities such as landscaping and benches along the bayous, and linking the City of Houston’s parks existing stretches of linear parks, trails and larger traditional parks. Based on public comments on the Draft EIS, this CIA update includes a more detailed assessment of potential impacts to existing and planned bayou greenways. Information on current and planned greenway projects was obtained from the Houston Parks Board Bayou Greenways 2020 website (Houston Parks Board 2018).

Other data was obtained from the City of Houston Parks Department GIS files (City of Houston 2016b), Harris County Parks Departments (Harris County 2016), the Houston Bike Plan (City of Houston 2017b), and the Houston Bike Plan Network Map (City of Houston 2018a). Recreational resource data was updated from what was presented in the 2017 NHHIP CIA Technical Report and Draft EIS.

3.3.2 Mobility, Transportation Facilities, and Bicycle and Pedestrian Amenities

The mobility assessment evaluates how the proposed project would enhance or impede access and circulation throughout communities. Factors considered include potential changes in travel patterns and access for all modes of transportation. Direct impacts to mobility may include changes in travel patterns, increased cut-through traffic in residential areas, and changes in the way people access community facilities. Beneficial impacts may include improved connectivity and access to neighborhoods, reduced congestion, and reduced travel times.

Transportation facilities in the project area include bus and light rail services, freight railroads, roadways, and transit centers. Data was obtained from the Metropolitan Transit Authority of Harris County (METRO) and the Federal Railroad Administration (FRA). Transportation facilities data has been updated from what was presented in the 2017 NHHIP CIA Technical Report

1 and Draft EIS. Transit facilities, railroads, and roadways along and near the study corridor are
2 shown in Appendix F.

3 **3.3.3 Safety**

4 The community safety assessment considers how the proposed project would adversely
5 impact or benefit emergency responders such as fire and police services, bicycle and
6 pedestrian safety, and neighborhood crime activity. Direct impacts include conflicts with
7 pedestrian and bicycle routes, school crossings, and emergency service routes; design
8 features that could separate or connect neighborhood facilities and high pedestrian locations;
9 and increased vehicle traffic through residential areas. Public safety information was obtained
10 from community profile data, field observations of neighborhood activity, and public
11 comments.

12 **3.4 Displacements**

13 The analysis of displacements of facilities identifies single-family homes and multi-family
14 units, businesses, places of worship, schools, and other structures that are within the
15 proposed right-of-way. Each apartment is counted as one multi-family unit. If an apartment
16 building would be impacted by a displacement, all units in that building were considered
17 displaced. Townhomes are considered single-family residential homes. Businesses,
18 single-family homes, multi-family units, and other structures within 25 feet of the proposed
19 new right-of-way were also counted as displacements if a portion of that parcel was within the
20 proposed new right-of-way of the Preferred Alternative. Parcel boundary and property
21 ownership information was updated since the 2017 NHHIP CIA Technical Report and Draft
22 EIS, and data was obtained from the 2019 Harris County Appraisal District (HCAD) GIS
23 database. Potential displacements were verified with 2018 H-GAC and Google Earth imagery
24 and limited field verification. Exhibits showing potential displacements are provided in
25 Appendix G; detailed lists of potential displacements are included in Appendix G, Table G-1.

26 Buildings or structures within 25 feet of the proposed new right-of-way of the Preferred
27 Alternative were assumed to be displaced if a portion of the parcel was within the proposed
28 right-of-way, based on the following conditions:

- 29 ▪ Any part of a single-family residence is within 25 feet of the proposed new
30 right-of-way;
- 31 ▪ Any part of a multi-family residential building is within 25 feet of the proposed new
32 right-of-way;
- 33 ▪ Any part of a multi-story building or shopping center is within 25 feet of the proposed
34 new right-of-way; and,
- 35 ▪ Loss of parking spaces or area for equipment storage within 25 feet of the proposed
36 new right-of-way could render the current use of the business impractical.

1 Use of the 25-foot criterion likely results in a higher estimated number of displacements than
2 would actually occur. TxDOT will coordinate with individual property owners during right-of-way
3 acquisition and it is likely that some of the structures could remain.

4 **3.4.1 Residential Displacements**

5 Residential displacements were identified using parcel and property ownership information
6 obtained from the 2019 HCAD GIS database, and verified using 2018 H-GAC and Google Earth
7 imagery and limited field verification.

8 A parcel's occupancy type (occupied by the owner or by a tenant) was determined by
9 comparing the owner's property address in the HCAD database with the owner's mailing
10 address, and verified by checking if the owner has a homestead exemption - indicating the
11 house and land are used as the owner's primary residence. If the property address was the
12 same as the mailing address, the property was assumed to be occupied by the owner;
13 otherwise, the property was assumed to be rented by a tenant. Apartment complexes were
14 considered renter-occupied and identified as multi-family residential unit displacements.

15 **3.4.2 Business Displacements**

16 Business displacements were identified using parcel and property ownership information
17 obtained from the 2019 HCAD GIS database, and verified with 2018 H-GAC and Google Earth
18 imagery and limited field verification. In shopping centers, the number of businesses was
19 estimated based on business signage. Displacements were not counted for individual
20 businesses within multi-story office buildings due to the fluctuation of occupancy.

21 **3.4.3 Availability of Residential and Business Spaces**

22 The Houston Association of Realtors (HAR) Multiple Listing Service (HAR 2019) website was
23 used to identify comparable, nearby replacement single-family housing. The LoopNet
24 (LoopNet 2019) website was used to identify replacement properties for businesses.

25 In comparison to the 2017 NHHIP CIA Technical Report and Draft EIS, in which potential
26 replacement single-family housing was identified by zip code locations, this updated CIA
27 Technical Report references a more focused search area for housing along the project
28 corridor. The search areas are based on Key Map® geographic areas, which extend three to
29 five miles from the project corridor and are approximately 13 square miles each. The search
30 also focused on comparable appraised property values. Potential replacement housing was
31 identified using comparable appraised values of the homes that are being displaced. There
32 are areas along the corridor where replacement housing is not available within the same
33 neighborhood. For those areas, proposed mitigation has been developed to help address this
34 issue. Mitigation measures including residential relocation assistance are discussed in
35 Section 5.1.2 and Section 6.

36 In Segment 1, estimated housing values ranged from \$40,000 to \$205,000; in Segment 2,
37 estimated housing values ranged from \$68,000 to \$562,000; and in Segment 3, estimated

1 housing values ranged from \$25,000 to \$2,300,000. Replacement single-family houses for
2 rent were searched based on monthly lease prices ranging between \$500 and \$3,000.

3 Available replacement multi-family units were identified from HCAD records for apartment
4 buildings with at least four units within three to five miles of the study corridor. Based on the
5 2019 Second Quarter *Houston Multifamily Market Report*, a 7.1 percent vacancy rate was
6 applied to estimate the number of apartment units available (Institutional Property Advisors
7 2019).

8 Available land and commercial or industrial business spaces for rent or lease were searched
9 by zip codes along the study corridor using HAR Commercial Gateway. Geographic area
10 searches were based on zip codes for the updated CIA Technical Report to capture a larger
11 area adjacent to the study corridor. In contrast, the 2017 NHHIP CIA Technical Report and
12 Draft EIS identified land and business spaces for rent or lease within 400 feet of the existing
13 right-of-way.

14 **3.5 Economic Conditions and Tax Revenue**

15 The economic impact analysis considers the potential impacts of the project to employment,
16 income, and property and sales tax revenue. Primary factors in evaluating potential impacts
17 were the conversion of taxable property to roadway right-of-way and displacements of
18 businesses that are significant sources of sales tax revenue. It is likely that many of the
19 displaced businesses would choose to relocate in the same area.

20 Property tax revenue for local jurisdictions was calculated for properties counted as
21 displacements and partial displacements, and sales tax was estimated for business
22 properties that would be displaced. If only a portion of the property would be acquired and no
23 businesses or homes would be displaced, the property tax was based on the percentage of
24 the property that would be acquired for the proposed project. The estimated annual taxes paid
25 to the City of Houston, Harris County and other local taxing districts were evaluated. Property
26 values, ownership, and tax information was obtained from the 2017 HCAD GIS database.

27 **3.5.1 Employment**

28 Potential adverse impacts to employment are based on business displacements that would
29 result from the proposed project. Employment data for commercial and industrial businesses
30 in the project area was obtained from ReferenceUSA, a company that compiles business and
31 consumer data using multiple information sources (ReferenceUSA 2018). ReferenceUSA data
32 was used as the basis for employment data for the updated CIA Technical Report because
33 this data source collects employment information for individual businesses, researches and
34 verifies the records, thereby providing more accurate employee estimates. In the 2017 NHHIP
35 CIA Technical Report and Draft EIS, a general 'employee per buildable acre' ratio was used to
36 calculate the number of employees based on business type and the total area (square feet)
37 of a business and was not specific data for the project area.

The estimated number of employees per business establishment is provided as a range to account for changes in employee counts throughout the year. Potential employment impacts were calculated based on business displacements as a result of the proposed project. The estimated number of employees for each displaced business is provided in Appendix G, Table G-2.

3.5.2 Income

Income characteristics in the project corridor were obtained using U.S. census data for median household income and per capita income. Median household income is defined as the income of householders and all other individuals 15 years or older (U.S. Census Bureau 2014). The definition for per capita income is defined as income per person, or the mean income received per person in a geographic area (ages 15 years and older) divided by the total population in that area (U.S. Census Bureau 2014). Census block groups with a median household income at or below the 2019 HHS poverty guideline (\$25,750 annual income for household of four persons) are identified as a low-income population area.

3.5.3 Property Tax

The procedure to determine the potential property tax revenue impact is as follows:

- Identify properties to be acquired based on HCAD records (October 2017).
- Obtain the property ownership, property value data (total appraised value), and property tax rates from HCAD records (October 2017).
- Calculate property taxes using the current taxable property value (total appraised value) and tax rates.
- The property tax rate used for property tax calculations was approximately 2.5 percent and includes the combined taxes for Independent School Districts, Harris County, Harris County Flood Control District, Port of Houston Authority, Harris County Hospital District, Harris County Education Department, Houston Community College, and City of Houston.

For properties where only a portion of the parcel would be acquired, and no business or residential displacements would occur, the property taxes were estimated based on the land value, percentage of property (parcel) that would be acquired, and current property tax rates, and did not account for any landowner exemptions. Tax exempt properties, such as places of worship, are not included in the evaluation of property taxes. The evaluation of potential property tax impacts has been updated since the 2017 NHHIP CIA Technical Report and Draft EIS, using the October 2017 property ownership for the parcels impacted and the latest property tax rates within the city of Houston (HCAD 2017). Property tax data from September 2015 was used for the analysis in the Draft EIS.

3.5.4 Sales Tax

Business sales tax revenue information was obtained from 2018 ReferenceUSA data. In the 2017 NHHIP CIA Technical Report and Draft EIS, annual sale tax revenue was estimated based on the U.S. Business Reporter 2012 average retail sales per square footage by business type. ReferenceUSA collects sales revenue information for individual businesses and provides a more accurate representation of annual sales estimates. The estimated sale tax revenue is provided as a range (ReferenceUSA 2018).

The potential sales tax revenue impact is based on business displacements that would occur as a result of new right-of-way required for the proposed project. If a portion of a building or shopping center would be displaced, the entire business within the building/shopping center is counted as a displacement.

The state retail sales tax rate in Texas is 6.25 percent for most retail purchases (Texas Comptroller of Public Accounts 2015a). Local taxing jurisdictions are allowed to impose an additional two percent in sales and use taxes; the City of Houston and the METRO each impose a sales tax of one percent. All retail businesses in the project area collect 8.25 percent total sales taxes for Texas, the City of Houston, and METRO.

Local taxing jurisdictions collect occupancy tax revenues from hotels and motels. In total, the hotel occupancy tax rate is 17 percent. The hotel tax rate is the sum of six percent for Texas, seven percent for Houston, two percent for Harris County, and two percent for the Harris County Sports Authority (Texas Comptroller of Public Accounts 2015b).

The procedures to determine the sales tax revenues include:

- Obtain annual sales revenue for displaced businesses based on ReferenceUSA data, and
- Estimate the sales tax revenue of displaced businesses using state, city, and METRO tax rates.

The estimated sales tax revenue for commercial and retail businesses includes all state and local taxes and local (city and county) hotel occupancy sales taxes. Displaced hotels and motels would likely be able to relocate in Texas; therefore, the state occupancy tax revenue was not included as part of the total sales tax impacts. The total sales tax impacts reported in the 2017 NHHIP CIA Technical Report and Draft EIS did not include state retail sales tax or state occupancy tax revenue. The total potential sales tax impacts in this updated CIA Technical Report include state retail sales tax revenue.

4 COMMUNITY PROFILE

This community profile provides a summary of existing demographics and socio-economic conditions and projected growth trends throughout the project area. Demographic characteristics include existing and projected population estimates, age distribution, race and ethnicity, and sensitive populations such as elderly, persons with disabilities, and minority or low-income populations. Economic characteristics include median household incomes, median household incomes below the 2019 HHS poverty guidelines, employment rates, and major industry and employers. This data is used to determine how the proposed project may affect populations, growth, and the local or regional economies.

Demographic data is provided at a regional level (county and city) and at a local level (census tracts, block groups, and blocks) to identify geographic areas of specific population groups. The census profile areas utilized for this community impact analysis encompass communities and individuals that would be impacted by the proposed project. Exhibits showing the census tracts and block groups in the census profile area and high-minority populations at the census block level (census blocks with a minority population of 50 percent or greater) are provided in Appendix C.

The 2015 estimates and 2040 projections for household population were developed by H-GAC. H-GAC uses a model to develop growth forecasts based on 2010 decennial census data and other factors, and identifies population, employment, and land use in the region (H-GAC 2017a). In the Houston-Galveston region, the household population is expected to increase from 6.5 million in 2015 to 10.1 million by 2040 (H-GAC 2017a). The household population within the 48-census tract area (the study area that includes census tracts within or adjacent to the proposed right-of-way) is projected to increase approximately 26.2 percent from 2015 to 2040. The 2015 population estimates and 2040 population projections for the 48-census tract area, the city of Houston, and Harris County are shown in Table 4-1.

Table 4-1: Population Estimates and Projections

	Estimated Household Population 2015	Projected Household Population 2040	Percent Change (2015-2040)	Average Annual Growth Rate (Percent) (2015-2040)
48-Census Tract Area	215,942	270,186	25.1	0.9
City of Houston	2,290,742	3,045,030	32.9	1.2
Harris County	4,468,113	6,276,493	40.5	1.4

Source: H-GAC 2017a

4.1 Population and Demographics

4.1.1 Segment 1: I-45 from Beltway 8 to I-610

The Segment 1 census profile area consists of 17 census tracts, 27 block groups, and 291 blocks. The total population of the Segment 1 census profile area at the census block level is 12,389 (U.S. Census Bureau 2010). Of the 291 census blocks, only 72 blocks have a population greater than zero. Approximately 87 percent of the Segment 1 census block area is a minority population, of which the largest minority populations are Hispanic (65.6 percent) and Black or African American (17.6 percent). Hispanic populations are located throughout the Segment 1 census profile area. Predominantly Hispanic communities are located east of I-45, between East Little York Road and I-610, and between West Road and Beltway 8. Predominantly African American or Black communities are located on the east side of I-45 near the intersection of Airline Road at Buress Street and between Aldine Bender Road and Greenspoint Drive; on the west side of I-45 between East Tidwell Road and Crosstimbers Street, and west of I-45 near the I-45 frontage road at Riggs Road.

Table 4-2 summarizes the population and demographic composition of the Segment 1 census profile area, which includes all census tracts, block groups, and blocks within or adjacent to the proposed right-of-way of the Preferred Alternative.

Table 4-2: Population and Demographic Distribution in Segment 1 Census Profile Area

Race/Ethnicity	Adjacent Blocks		Adjacent Block Groups		Adjacent Census Tracts	
	Number	Percent	Number	Percent	Number	Percent
Total Population	12,389	-	50,326	-	88,708	-
White	1,609	13.0	4,078	8.1	6,379	7.2
Black or African American	2,169	17.6	10,329	20.5	20,838	23.5
American Indian or Alaskan Native	3	<0.1	56	0.1	28	<0.1
Asian	335	2.7	508	1.0	1,007	1.1
Native Hawaiian and Other Pacific Islander	2	<0.1	8	<0.1	10	<0.1
Some Other Race	24	0.2	53	0.1	116	0.1
Two or More Races	98	0.8	206	0.4	432	0.5
Ethnicity: Hispanic*	8,149	65.6	35,088	69.7	59,898	67.5
Minority: Non-white or Hispanic	10,780	87.0	46,248	91.9	82,329	92.8

Source: U.S. Census Bureau 2010

Note: *Hispanic includes all respondents that have identified Hispanic ethnicity, regardless of race.

4.1.1.1 Children, Elderly, and Disabled Populations

Environmental impacts, such as unhealthy air quality and increases in traffic noise, can affect people at any age, but some populations could be at greater risk for health impacts. According to the Environmental Protection Agency's (EPA) Air Quality Index, A Guide to Air Quality and Your Health Report, during the normal aging process, older adults experience health risks from exposure to unhealthy air (EPA 2014).

In the Segment 1 census tract area, approximately 36.0 percent of the population are children (persons less than 1 year old to 19 years old), which is higher than the percentage of children in the city of Houston (27.7 percent) and Harris County (29.8 percent). Approximately 8.4 percent of the population is elderly, which is lower in comparison to the elderly population in the City of Houston (9.8 percent) and Harris County (9.2 percent) (U.S. Census Bureau 2016a).

Bussey Elementary School, Aldine Ninth Grade School, and Aldine High School Football Stadium are located within 500 feet of the proposed project right-of-way. According to the Texas Education Agency (TEA), Aldine High School, Aldine Ninth Grade School and Bussey Elementary School are considered Title I schools. Title I schools receive supplemental funds due to large concentrations of low-income students. These schools receive supplemental funds to assist in meeting the educational goals of students. The number of low-income students is determined by the number of students enrolled in the free and reduced lunch program. The types of students served by Title 1 funds include migrant students, students with limited English proficiency, homeless students, students with disabilities, neglected students, delinquent students, at-risk students or any student in need (US Legal, Inc. 2019). The student populations for all three schools have a 98 percent or greater minority population, and the schools are considered Economically Disadvantaged (TEA 2018).

The percentage of persons with disabilities in the Segment 1 census tract area (8.8 percent) is lower in comparison to the percentage of persons with disabilities in the city of Houston (9.8 percent) and Harris County (9.3 percent) (U.S. Census Bureau 2016b).

Table 4-3 summarizes the numbers of children, elderly, and disabled persons in the Segment 1 census tract area.

Table 4-3: Children, Elderly, and Disabled Populations in Segment 1 Census Tract Area

	17-Census Tract Area		City of Houston		Harris County	
	Number	Percent	Number	Percent	Number	Percent
Age Distribution						
Total Population ^(a)	92,986*		2,240,582		4,434,257	
Under 5 Years Old	9,714	10.5	175,767	7.8	347,351	7.8
Population 5 to 14 years old	17,232	18.5	307,908	13.7	669,595	15.1
Population 15 to 19 years old	6,502	7.0	138,960	6.2	304,390	6.9
Population 65 years and older	7,851	8.4	219,012	9.8	408,818	9.2

	17-Census Tract Area		City of Houston		Harris County	
	Number	Percent	Number	Percent	Number	Percent
Disabled Population						
Total Population ^(b)	92,827*		2,226,641		4,413,550	
Disabled Population	8,188	8.8	217,466	9.8	410,741	9.3

Sources: (a) U.S. Census Bureau 2016a;

(b) U.S. Census Bureau 2016b

Note: * Population totals are from the ACS and may differ from the 2010 Census population estimates.

4.1.1.2 Limited English Proficiency Population

Approximately 51.7 percent of the total population in the Segment 1 census block group area speaks English less than “very well”, which the Census Bureau defines as LEP. The LEP language distribution in the Segment 1 study area is 98.9 percent Spanish, 0.2 percent Indo-European, 0.7 percent Asian and Pacific Islander, and 0.2 percent Other (U.S. Census Bureau 2016c). Spanish is the predominant language of the LEP populations.

Sixteen of the 27 census block groups in the Segment 1 block group area have a 50 percent or greater LEP population. Areas with a 50 percent or greater LEP population are primarily located on the east side of I-45 between Beltway 8 and East Tidwell Road, and on the west side of I-45 between West Parker Road and East Tidwell Road and between West Road and West Mount Houston Road. During the field investigation, several signs in Spanish were observed in these areas at places of worship and businesses. The North Houston Birth Center disclosed that many of their patients, who come from all areas of Houston, are Spanish-speaking persons. Appendix C, Table C-2 provides the LEP population totals for the Segment 1 block group area, city of Houston, and Harris County, and the composition of LEP populations by languages.

4.1.2 Segment 2: I-45 from I-610 to I-10

The Segment 2 census profile area consists of 9 census tracts, 15 block groups, and 175 blocks. (Note: two census tracts are located in both Segments 2 and 3). Of the 175 census blocks, 66 blocks have a population greater than zero. The population within the Segment 2 census block area is 83.5 percent minority, of which 69.6 percent is Hispanic. Predominantly Hispanic communities are located throughout the Segment 2 census profile area. Two predominantly Black or African American census areas are located north of Downtown Houston and west of I-45.

Roosevelt Elementary School and Jefferson Elementary School are located within 500 feet of the proposed project right-of-way. According to the TEA, both of these elementary schools are considered Title I schools (TEA 2018). The student populations for both schools, have a 98 percent or higher minority population, and the schools are considered Economically Disadvantaged (TEA 2018).

Table 4-4 summarizes the population and the demographic composition of the Segment 2 Census profile area, which includes all census tracts, block groups, and blocks within or adjacent to the proposed right-of-way of the Preferred Alternative.

Table 4-4: Population and Demographic Distribution in Segment 2 Census Profile Area

Race/Ethnicity	Adjacent Blocks		Adjacent Block Groups		Adjacent Census Tracts	
	Number	Percent	Number	Percent	Number	Percent
Total Population	2,482	-	17,620	-	40,535	-
White	409	16.5	4,215	23.9	10,156	25.1
Black or African American	287	11.6	2,112	11.9	4,795	11.8
American Indian or Alaskan Native	11	0.4	34	0.2	45	0.1
Asian	21	0.8	169	0.9	338	0.8
Native Hawaiian and Other Pacific Islander	0	0	6	0.2	18	<0.1
Some Other Race	2	<0.1	36	0.2	63	0.1
Two or More Races	25	1.0	140	0.8	322	0.9
Ethnicity: Hispanic*	1,727	69.6	10,908	61.9	24,798	61.2
Minority: Non-white or Hispanic	2,073	83.5	13,405	76.1	30,379	74.9

Source: U.S. Census Bureau 2010

Note: *Hispanic includes all respondents that have identified Hispanic ethnicity, regardless of race.

4.1.2.1 Children, Elderly, and Disabled Populations

In the Segment 2 census tract area, approximately 24.2 percent of the population are children, which is lower than the percentage of children in the city of Houston (27.7 percent) and Harris County (29.8 percent). Approximately 10.7 percent of the population is elderly, which is higher in comparison to the elderly population in the city of Houston (9.8 percent) and Harris County (9.2 percent) (U.S. Census Bureau 2016a).

The percentage of persons with disabilities in the Segment 2 census tract area (14.1 percent) is higher in comparison to the percentage of persons with disabilities in the city of Houston (9.8 percent) and Harris County (9.3 percent) (U.S. Census Bureau 2016b). No specific group housing facilities for disabled populations were identified in the Segment 2 census tract area.

Table 4-5 summarizes the numbers of children, elderly, and disabled persons in the Segment 2 census tract area.

Table 4-5: Children, Elderly, and Disabled Populations in Segment 2 Census Tract Area

	9-Census Tract Area		City of Houston		Harris County	
	Number	Percent	Number	Percent	Number	Percent
Age Distribution						
Total Population ^(a)	36,196*	-	2,240,582	-	4,434,257	-
Under 5 Years Old	2,387	6.6	175,767	7.8	347,351	7.8

	9-Census Tract Area		City of Houston		Harris County	
	Number	Percent	Number	Percent	Number	Percent
Population 5 to 14 years old	4,466	12.3	307,908	13.7	669,595	15.1
Population 15 to 19 years old	1,935	5.3	138,960	6.2	304,390	6.9
Population 65 years and older	3,856	10.7	219,012	9.8	408,818	9.2
Disabled Population						
Total Population ^(b)	36,115*	-	2,226,641	-	4,413,550	-
Disabled Population	5,106	14.1	217,466	9.8	410,741	9.3

Sources: (a) U.S. Census Bureau 2016a;

(b) U.S. Census Bureau 2016b

Note: * Population totals are from the ACS and may differ from the 2010 Census population estimates.

4.1.2.2 Limited English Proficiency Population

Approximately 21.5 percent of the total population in the Segment 2 census block group area are LEP persons. The LEP language distribution is 96.5 percent Spanish, 0.7 percent Indo-European, 2.6 percent Asian and Pacific Islander, and 0.3 percent Other. No block groups in Segment 2 have a LEP population equal to or greater than 50 percent. Of the LEP population in Segment 2, Spanish is the predominant language. The LEP population in one census block group located on the west side of I-45 between Matthis Road and West Patton Street is 47.4 percent, which is more than twice the percent of the LEP population for the city of Houston (23.2 percent) and Harris County (20.3 percent) (U.S. Census Bureau 2016c). During the field investigation, non-English signs were not observed in the Segment 2 census profile area.

Appendix C, Table C-2 provides the LEP population totals for the Segment 2 block group area, city of Houston, and Harris County, and the composition of LEP populations by languages.

4.1.3 Segment 3: Downtown Loop

The Segment 3 census profile area consists of 24 census tracts, 36 block groups, and 642 blocks. Two census tracts are located in both Segments 2 and 3. Of the 642 census blocks, 163 census blocks have a population greater than zero. The population within the Segment 3 census profile area is 73.6 percent minority, of which 42.3 percent is Black or African American and 24.7 percent is Hispanic. Predominantly Hispanic communities are located east of I-45 between North Main Street and Quitman Street. Other predominantly Hispanic communities are located at Nance Street south of I-10 near the US 59/I-69 interchange, north of Cleburne Street, and south of the US 59/I-69 and SH 288 interchange. Minority populations that are predominantly Black or African American are located west of US 59/I-69 between Runnels Street and Ruiz Street; north of I-10 from US 59/I-69 to Waco Street; south of Chartres Street between Franklin Street and Congress Street; and south of Downtown on the southwest corner of the I-45 and US 59/I-69 interchange.

Houston Academy for International Studies, Young Women's College Preparatory School, Secondary Disciplinary Alternative Education Program, Yes Prep Fifth Ward, Fifth Ward Head Start Center, Young Scholars Academy for Excellence and Bruce Elementary School are located within 500 feet of the proposed project right of way. According to the TEA, Houston Academy for International Studies, Young Women's College Preparatory School, and Bruce Elementary School are considered Title I schools (TEA 2019). The student populations have a 90 percent or higher minority population, and the schools are considered Economically Disadvantaged (TEA 2019).

Table 4-6 summarizes the population estimates and the demographic composition of the Segment 3 census profile area, which includes all census tracts, block groups, and blocks in or adjacent to the proposed right-of-way of the Preferred Alternative.

Table 4-6: Population and Demographic Distribution in Segment 3 Census Profile Area

Race/Ethnicity	Adjacent Blocks		Adjacent Block Groups		Adjacent Tracts	
	Number	Percent	Number	Percent	Number	Percent
Total Population	6,209	-	55,369	-	96,620	-
White	1,375	22.1	16,231	29.3	29,678	30.7
Black or African American	2627	42.3	19,982	36.1	34,646	35.86
American Indian or Alaskan Native	12	0.2	108	0.2	68	<0.1
Asian	203	3.3	1,799	3.3	3,494	3.6
Native Hawaiian and Other Pacific Islander	0	0	22	<0.1	40	<0.1
Some Other Race	19	0.3	252	0.5	423	0.4
Two or More Races	171	2.8	694	1.3	1,200	1.2
Ethnicity: Hispanic*	1,536	24.7	16,282	29.4	27,070	28.0
Minority: Non-white or Hispanic	4,568	73.6	39,139	70.7	66,941	69.3

Source: U.S. Census Bureau 2010

Note: *Hispanic includes all respondents that have identified Hispanic ethnicity, regardless of race.

4.1.3.1 Children, Elderly, and Disabled Populations

In the Segment 3 census tract area, approximately 19.8 percent of the population are children, which is lower in comparison to the city of Houston (27.7 percent) and Harris County (29.8 percent). In the Segment 3 census tract area, approximately 8.5 percent are elderly compared to the elderly population of city of Houston (9.8 percent) and Harris County (9.2 percent) (U.S. Census Bureau 2016a). The percentage of elderly persons in the Segment 3 census tract area (8.6 percent) is lower than the percentage of elderly persons in the city of Houston (9.8 percent) and Harris County (9.2 percent).

The disabled population accounts for 12.0 percent of the total population in the Segment 3 census tract area, which is higher than the city of Houston (9.8 percent) and Harris County

(9.3 percent) (U.S. Census Bureau 2016b). No specific group housing facilities for disabled populations were identified in the Segment 3 census tract area.

Table 4-7 summarizes the numbers of children, elderly, and disabled persons in the Segment 3 census tract area.

Table 4-7: Children, Elderly, and Disabled Populations in Segment 3 Census Tract Area

	24-Census Tract Area		City of Houston		Harris County	
	Number	Percent	Number	Percent	Number	Percent
Age Distribution						
Total Population ^(a)	95,703*		2,240,582		4,434,257	
Under 5 Years Old	5,516	5.8	175,767	7.8	347,351	7.8
Population 5 to 14 years old	8,479	8.9	307,908	13.7	669,595	15.1
Population 15 to 19 years old	4,841	5.1	138,960	6.2	304,390	6.9
Population 65 years and older	8,215	8.6	219,012	9.8	408,818	9.2
Disabled Population						
Total Population ^(b)	88,593*		2,226,641		4,413,550	
Disabled Population	10,647	12.0	217,466	9.8	410,741	9.3

Sources: (a) U.S. Census Bureau 2016a;

(b) U.S. Census Bureau 2016b

Note: * Population totals are from the ACS and may differ from the 2010 Census population estimates.

4.1.3.2 Limited English Proficiency Population

Approximately 10.9 percent of the total population in the Segment 3 census block group are LEP persons. The LEP language distribution is 83.2 percent Spanish, 5.4 percent Indo-European, 4.6 percent Asian and Pacific Islander, and 6.7percent Other (U.S. Census Bureau 2016c). Spanish is the predominant language of the LEP populations. Based on field investigations and interviews with property owners, two Vietnamese-owned businesses are located east of Downtown near St. Emanuel Street.

Appendix C, Table C-2 provides the LEP population totals for the Segment 3 block group area, city of Houston, and Harris County, and the composition of LEP populations by languages.

4.2 Socio-Economic Conditions

4.2.1 Segment 1: I-45 from Beltway 8 to I-610

4.2.1.1 Employment

Table 4-8 presents data for the civilian labor force (persons over 16 years of age), percent employed, percent unemployed, percent of workers in the Armed Forces, and percent of workers not in the labor force for the Segment 1 census tract area. The unemployment rate for the Segment 1 census tract area is 8.5 percent, which is higher than the unemployment rate for the city of Houston (7.4 percent) and Harris County (7.0 percent). The percent of the

population that is not in the labor force (36.8 percent) is higher than city of Houston (31.8 percent) and Harris County (31.7 percent) (U.S. Census Bureau 2016d).

The three leading occupational categories in the Segment 1 census tract area are construction; retail trade; and education, health care and social services (U.S. Census Bureau 2016d). Large employers in the Segment 1 census tract area include Gallery Furniture, Fry's Electronics, car and truck dealerships, heavy equipment rental companies, and many restaurants.

Table 4-8: Labor Force, Total Employment, and Unemployment Rate in Segment 1 Census Tract Area

Socio-Economic Characteristics	17-Census Tract Area		City of Houston		Harris County	
	Number	Percent	Number	Percent	Number	Percent
Population 16 years and older (Labor Force)	64,611	-	1,729,162	-	3,353,852	-
Civilian Labor force	40,832	63.2	1,179,411	68.2	2,290,438	68.3
Employed*	37,380	91.6	1,092,642	92.6	2,130,543	93.0
Unemployed*	3,452	8.5	86,769	7.4	159,895	7.0
Armed Forces	26	0.04	481	0.03	1,314	0.04
Not in Labor Force	23,753	36.8	549,270	31.8	1,062,100	31.7

Source: U.S. Census Bureau 2016d

*Note: Percent is percentage of Civilian Labor Force.

4.2.1.2 Income

Median household income is defined as the income of householders and all other individuals 15 years or older (U.S. Census Bureau 2014). Per capita income is defined as income per person, or the mean income received per person in a geographic area (ages 15 years and older) divided by the total population in that area (U.S. Census Bureau 2014).

The average median household income for the Segment 1 census block group area is \$30,159, which is lower than the average median household income for city of Houston (\$47,010) and Harris County (\$55,584) (U.S. Census Bureau 2016e). The average per capita income for the Segment 1 census block group area is \$13,015, which is lower than the average per capita income for City of Houston (\$29,224) and Harris County (\$29,850) (U.S. Census Bureau 2016f).

Census block groups with a median household income at or below the 2019 HHS poverty guideline (\$25,750 annual income for household of four persons) are identified as a low-income population area (Appendix C, Table C-1). In the Segment 1 census profile area, 11 of the 27 census block groups have low-income populations.

4.2.2 Segment 2: I-45 from I-610 to I-10

4.2.2.1 Employment

Table 4-9 presents data for the civilian labor force (persons over 16 years of age), percent employed, percent unemployed, percent of workers in the Armed Forces, and percent of workers not in the labor force for the Segment 2 census tract area.

The unemployment rate for the Segment 2 census tract area is 5.9 percent, which is lower than the unemployment rate for the city of Houston (7.4 percent) and Harris County (7.0 percent). The percent of the population not in the labor force (31.7 percent) is generally consistent with the city of Houston (31.8 percent) and Harris County (31.7 percent) (U.S. Census Bureau 2016d).

The three leading occupational categories in the Segment 2 census tract area are education, health care, and social services; professional, scientific, management, administrative, and waste management services; and arts, entertainment and recreation, and accommodation and food services (U.S. Census Bureau 2016d).

Table 4-9: Labor Force, Total Employment, and Unemployment Rate in Segment 2 Census Tract Area

Socio-Economic Characteristics	9-Census Tract Area		City of Houston		Harris County	
	Number	Percent	Number	Percent	Number	Percent
Population 16 years and older (Labor Force)	28,965	-	1,729,162	-	3,353,852	-
Civilian Labor force	19,765	68.2	1,179,411	68.2	2,290,438	68.3
Employed*	18,669	94.5	1,092,642	92.6	2,130,543	93.0
Unemployed*	1,096	5.9	86,769	7.4	159,895	7.0
Armed Forces	21	0.07	481	0.03	1,314	0.04
Not in Labor Force	9,179	31.7	549,270	31.8	1,062,100	31.7

Source: U.S. Census Bureau 2016d

*Note: Percent is percentage of Civilian Labor Force.

4.2.2.2 Income

The average median household income for the Segment 2 census block group area is \$48,298, which is higher than the average median household income for city of Houston (\$47,010) and lower than the average median household income for Harris County (\$55,584) (U.S. Census Bureau 2016e). The average per capita income for the Segment 2 census block group area is \$34,474, which is higher than the average per capita income for the city of Houston (\$29,224) and Harris County (\$29,850) (U.S. Census Bureau 2016f).

Census block groups with a median household income at or below the 2019 HHS poverty guideline (\$25,750 annual income for household of four persons) are identified as a low-income population area (Appendix C, Table C-1). In the Segment 2 census profile area, one of the 15 census block groups has low-income populations.

4.2.3 Segment 3: Downtown Loop

4.2.3.1 Employment

Table 4-10 presents data for the civilian labor force (person over 16 years of age), percent employed, percent unemployed, percent of workers in the Armed Forces, and percent of workers not in the labor force for the Segment 3 census tract area.

In the Segment 3 census tract area, the unemployment rate is 6.9 percent, which is lower than the unemployment rate for the city of Houston (7.4 percent) and consistent with the unemployment rate in Harris County (7.0 percent). The percent of the population not in the labor force (34.4 percent) is higher than the city of Houston (31.8 percent) and Harris County (31.7 percent) (U.S. Census Bureau 2016d).

The three leading occupational categories in the Segment 3 census profile area are education, health care and social services; professional, scientific, management, administrative and waste management services; and arts, entertainment, and recreation, and accommodation and food services (U.S. Census Bureau 2016d). Two large employers in the Segment 3 census profile area include the George R. Brown Convention Center and the University of Houston Downtown. Downtown Houston is considered a major employment center in the Houston area with many employers.

Table 4-10: Labor Force, Total Employment, and Unemployment Rate in Segment 3 Census Tract Area

Socio-Economic Characteristics	24-Census Tract Area		City of Houston		Harris County	
	Number	Percent	Number	Percent	Number	Percent
Population 16 years and older (Labor Force)	81,077	-	1,729,162	-	3,353,852	-
Civilian Labor force	53,194	65.6	1,179,411	68.2	2,290,438	68.3
Employed*	49,496	93.1	1,092,642	92.6	2,130,543	93.0
Unemployed*	3,698	6.9	86,769	7.4	159,895	7.0
Armed Forces	21	0.03	481	0.03	1,314	0.04
Not in Labor Force	27,862	34.4	549,270	31.8	1,062,100	31.7

Source: U.S. Census Bureau 2016d

*Note: Percent is percentage of Civilian Labor Force.

4.2.3.2 Income

The average median household income for Segment 3 census block group area is \$55,574, which is higher than the median household income for city of Houston (\$47,010) and similar to the household income for Harris County (\$55,584) (U.S. Census Bureau 2016e). The average per capita income for the Segment 3 census block group area is \$43,646, which is higher than the average per capita income for the City of Houston (\$29,224) and Harris County (\$29,850) (U.S. Census Bureau 2016f).

Census block groups with a median household income at or below the 2019 HHS poverty guideline (\$25,750 annual income for household of four persons) are identified as a low-income population area (Appendix C, Table C-1). In the Segment 3 census profile area, six (6) of the 36 census block groups have low-income populations.

4.3 Land Use

The city of Houston was founded in 1836 on 147 acres at the confluence of Buffalo and White Oak Bayous (City of Houston n.d.). The city began to grow through decades of annexations starting in the 1900s with the ship channel annexation and the Heights residential area annexation. The northern portion of the project corridor, Segment 1, started to develop in the 1970s and is the least densely developed segment along the project corridor. The areas surrounding Segment 2 (which developed from the 1940s to the 1970s) and Segment 3 (which developed shortly after the founding of Houston in 1836) are among the most densely populated areas in the city. The Downtown Houston area and the surrounding neighborhoods in the I-610 Loop have experienced significant redevelopment and densification over the past decades. Development patterns and population forecasts indicate continuing growth along the I-45 corridor in north Houston and in the Downtown area.

The NHHIP crosses through urban and developing areas. The majority of the project is located in the city limits of Houston, but a portion of the project corridor in Segment 1 crosses the Harris County Municipal Utility District (MUD) 321 and Fallbrook Utility District boundaries. MUD 321 and Fallbrook Utility District, located west of I-45 between Fallbrook Drive and West Mount Houston Road, are part of the city's extra territorial jurisdiction (ETJ). This is a limited purpose annexation area in which the City of Houston provides a limited array of services such as water and sewer service.

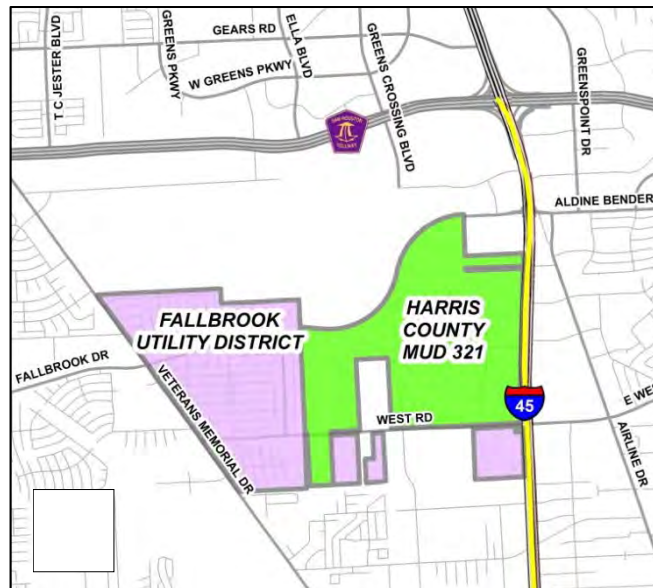


Figure 4-1: Utility Districts along Project Corridor

The land use study area (herein after referred to as the “study area” in Section 4.3) for each study segment is comprised of a corridor that extends one-half mile from the existing project corridor right-of-way. Exhibits showing land uses along the project corridor are provided in Appendix D.

4.3.1 Segment 1: I-45 from Beltway 8 to I-610

The Segment 1 study area is primarily comprised of residential and commercial land uses. Commercial development is concentrated along the frontage roads of I-45, and residential areas are located along both sides of the I-45 corridor. A few residential areas front the freeway on the east and west side. Industrial and public/institutional land uses are located along the frontage roads and throughout the entire Segment 1 study area. The total acres of land uses in the Segment 1 study area are provided in Table 4-11.

The Segment 1 study area is mostly developed, and approximately one percent of property in the study area is vacant developable land. The Pinto Business Park is a developing 971-acre “build-to-suit” industrial park located in the northern portion of Segment 1 on the west side of I-45 between Beltway 8 and West Road. Initial developments on the site were completed in 2014 and 2015, and new development is currently under construction. The Amazon Fulfillment Center, an 855,000 square foot facility, began operation in July 2017 (Para 2018). Other planned uses include light manufacturing and corporate campus space (Hines 2018). No other planned developments were identified in the Segment 1 study area.

Parks and open space account for less than one percent of the total land uses in the Segment 1 study area. The Adath Israel Cemetery, located on Airline Drive between Tidwell Road and Crosstimbers Street, is classified as open space. A few channels and streams cross I-45. Halls Bayou crosses I-45 just north of West Mount Houston Road, and Little White Oak Bayou runs along the west side of I-45 between Tidwell Road and I-610.

Table 4-11: Land Uses in Segment 1 Study Area

Land Use	Acres	Percent*
Residential	1,978	30
Commercial	1,621	25
Industrial	540	8
Multiple Use	511	8
Public Use/Institutional	278	4
Parks/Open Spaces	23	<1
Transportation/Utility ¹	1,339	20
Vacant Developable	35	1
Undevelopable	211	3
Unknown	65	1
Total	6,601	

Source: H-GAC 2018

Note: Land use data from H-GAC was revised based on field observations.

*Percentages in the Table may not total 100 percent due to rounding.

¹ Total acreage includes existing roadway right-of-way within the project corridor.

4.3.2 Segment 2: I-45 from I-610 to I-10

The Segment 2 study area is comprised mostly of residential land use. Residential development is located east and west of the existing I-45 right-of-way, and some residential areas are adjacent to the freeway. Commercial development occurs primarily along I-45, Airline Drive, North Main Street, and Fulton Street. Larger areas of commercial uses include various retail establishments located southwest of the I-45/I-610 interchange and the Love's Truck Stop east of I-45 near Patton Street. Public/institutional uses, industrial uses, and undevelopable lands are dispersed throughout the segment study area. The total acres of land uses in the Segment 2 study area are provided in Table 4-12.

Parks and open space account for approximately five percent of the total uses in the Segment 2 study area. Little White Oak Bayou runs generally parallel to the I-45 corridor and passes under the freeway between Patton Street and Quitman Street. Little White Oak Bayou has historically limited development adjacent to I-45 in this area. The Historic Hollywood and Holy Cross Catholic cemeteries are located between I-45 and the Little White Oak Bayou curves around the Near Northside super neighborhood. The Adath Emeth Orthodox Jewish cemetery is located south of I-610 in Greater Heights.

The Segment 2 study area is largely built-out and less than one percent of property in the study area is developable vacant land. No planned developments were identified in the Segment 2 study area.

Table 4-12: Land Uses in Segment 2 Study Area

Land Use	Acres	Percent*
Residential	1,198	44
Commercial	203	7
Industrial	67	2
Multiple Use	72	3
Public Use/Institutional	43	2
Parks/Open Spaces	132	5
Transportation/Utility ²	922	34
Vacant Developable	8	<1
Undevelopable	37	1
Unknown	25	1
Total	2,707	

Source: H-GAC 2018

Note: Land use data from H-GAC was revised based on field observations.

*Percentages in the Table may not total 100 percent due to rounding.

² Total acreage includes existing roadway right-of-way within the project corridor.

4.3.3 Segment 3: Downtown Loop

The Segment 3 study area is a densely developed area that is comprised primarily of residential, commercial, and existing transportation and utility land uses. Undevelopable land use includes storm water detention areas, drainage channels, bayous, and waterbodies. Commercial and multiple purpose land uses are concentrated in the central portion of the Segment 3 study area, and residential land use is located primarily outside of the Downtown loop. Industrial land use is located east of Downtown and along I-10. The total acres of land uses in the Segment 3 study area is provided in Table 4-13. The Segment 3 study area is mostly built-out and only one percent of property in the study area is developable vacant land. As the city continues to grow, Downtown and the surrounding neighborhoods are redeveloping. Several

office towers, multi-family unit complexes, hotels, and mixed-use developments are under construction or planned inside of the Downtown loop. Midtown, which was originally a commercial district, is undergoing residential redevelopment but still has significant areas of commercial development. Higher density residential land use, such as townhouses and apartment buildings, and mixed-use development are increasing in older neighborhoods to the west, east, and south of central Downtown. The area east of Downtown is experiencing high- to medium-density residential redevelopment, but this area is still comprised largely of industrial land use. Public use facilities in the Segment 3 study area include libraries, government buildings, community centers, universities, stadiums, sports areas, and theaters.

The former Hardy Yards Union Pacific railyard located two blocks north of I-10 between I-45 and US 59/I-69, is being redeveloped into The Residences at Hardy Yards. The master plan for the 43-acre site is as a mixed-use of residential, retail, and office development surrounding a community park. A new “complete street” network will provide direct access to the Burnett Transit station (Design Workshop 2016). This mixed-use complex that will ultimately include 350 apartment units, a music center, retail shops, restaurants, and business centers. Of the

Table 4-13: Land Uses in Segment 3 Study Area

Land Use	Acres	Percent*
Residential	2,034	26
Commercial	1,215	16
Industrial	337	4
Multiple Use	266	3
Public Use/Institutional	345	4
Parks/Open Spaces	249	3
Transportation/Utility ³	3,116	40
Vacant Developable	55	1
Undevelopable	80	1
Unknown	139	2
Total	7,836	

Source: H-GAC 2015a

Note: Land use data from H-GAC was revised based on field observations.

* Percentages in the Table may not total 100 percent due to rounding.

³ Total acreage includes existing roadway right-of-way within the project corridor.

350 apartments, 179 units of affordable workforce housing are targeted to renters who earn \$40,000-\$50,000 per year (Zieben 2019a and Zieben 2019b).

Several residential developments are planned in the Greater Fifth Ward. The Midway East River Development is a proposed 150- acre master planned community located southeast of the I-10 and US 59/I-69 interchange along the banks of the Buffalo Bayou. The proposed development will be constructed in multiple phases over 10 years and will includes a mix of office, residential, restaurant, retail and park space (Midway 2018). Sheffield Green subdivision is a proposed residential development on 10.4 acres of land south of the I-10 and US 59/I-69 interchange between Buffalo Bayou and Jensen Drive. The proposed subdivision would include 150 single-family residential lots. A Subdivision Final Plat application was filed with the City of Houston Planning and Development Commission in 2017 (City of Houston 2017c). Bayou Fifth is another proposed residential development on a former Superfund site located south of I-10 between Bringhurst Street and Hirsch Road. Remediation of the 36-acre site is complete, and the redevelopment can move forward (EPA 2008). A Subdivision Final Plat application was filed with the City of Houston Planning and Development Commission in 2017 for Bayou Fifth Section 2 (City of Houston 2017d).

4.4 Neighborhoods and Community Resources

Communities in the proposed project area are referred to as “super neighborhoods”, which are geographically designated areas that are divided by major physical features and share common characteristics. All but three of the super neighborhoods in the project area have elected councils and guiding by-laws that create a framework to prioritize and address issues of concern for their community. Direct impacts to community resources were evaluated for facilities in the proposed right-of-way of the Preferred Alternative, as well as indirect impacts to nearby community facilities. Section 5 discusses in detail the impacts to the super neighborhoods that are within the I-45 project area.

4.5 Parks, Open Space, and Hike and Bike Trails

The CIA discusses the evaluation of impacts to parks, open space, and hike and bike trails. Bicycle facilities in the project area include shared-use bikeways through residential and recreational areas, designated bike lanes along roadways, and trails along bayous. Bikeways are part of the local transportation system and function primarily for transportation. Pedestrian sidewalks are available along most major thoroughfares. Exhibits showing parks and existing and proposed bikeways along the project corridor are provided in Appendix E.

4.5.1 Segment 1: I-45 from Beltway 8 to I-610

Halls Bayou runs east and west and crosses the project corridor just north of West Mount Houston Road. Little White Oak Bayou runs along the west side of I-45 between Tidwell Road and I-610. In Segment 1, the city’s long-term bikeway vision plan includes future bike paths

1 along Halls Bayou between Fallbrook Drive and Aldine Westfield Road and along Little White
2 Oak Bayou between Tidwell Road and I-610 (City of Houston 2018a).

3 **4.5.2 Segment 2: I-45 from I-610 to I-10**

4 In Segment 2, Little White Oak Bayou runs along the west side of I-45 and crosses under the
5 freeway north of Patton Street. The bayou continues around the eastern boundary of Moody
6 Park and crosses to the west of I-45 to connect Woodland Park and White Oak Bayou. Existing
7 bike paths are located west of I-45 along Little White Oak Bayou between Link Road and
8 Cavalcade Street. The city's long-term bikeway vision plan includes future bike paths and trails
9 along Little White Oak Bayou and through Moody Park on the east side of I-45 (City of Houston
10 2018a).

11 Woodland Park is located northwest of the I-45 and I-10 interchange between Parkview Street
12 and White Oak Boulevard. The park occupies approximately 30 acres of land. Originally
13 founded in 1903, Woodland Park was purchased by the City of Houston in 1911. The
14 Woodland Park Community Center is located at the north end of the park. Little White Oak
15 Bayou cuts across the park from the northeast and continues down to the southern border of
16 the park along White Oak Boulevard.

17 Little White Oak Bayou offers the opportunity to extend open space from White Oak Bayou
18 Greenway to Woodland Park and Moody Park and to Halls Bayou. The Houston Parks Board is
19 proposing to expand the bayou greenway network to include Little White Oak Bayou from I-10
20 to Crosstimbers Street with an extension to Acres Home (Houston Parks Board 2017).

21 **4.5.3 Segment 3: Downtown Loop**

22 Parks and recreational areas in the Segment 3 study area include the White Oak Parkway,
23 Freed Art and Nature Park, and Hogg Park to the north of I-10; Buffalo Bayou Park and Linear
24 Park on the west side of Segment 3 study area; and several park areas in the Downtown loop
25 (Table 4-14).

26 White Oak Parkway is a 23-acre city park on the north side of I-10 between Taylor Street and
27 Houston Avenue. The parkway is part of the White Oak Bayou Greenway, which extends from
28 northwest Houston into the Houston Downtown area. The White Oak Bayou Bike Trail follows
29 White Oak Bayou in on the north side of I-10 through White Oak Parkway and on the east side
30 of I-45 through Hogg Park (Segment 2) into Downtown. Additionally, the City is completing trail
31 connections between Stude Park and the Heights hike-and-bike trail.

32 Freed Art and Nature Park occupies approximately six acres of land on the west side of the
33 I-45 and I-10 interchange at the corner of Houston Avenue and White Oak Boulevard. The park
34 land was donated to the City of Houston in 2002 by the Frank and Eleanor Freed Foundation.
35 The park is a heavily wooded area surrounded by paved trails that connect to the surrounding
36 parks.

1 Buffalo Bayou Park extends from Shepherd Drive to Sabine Street, between Allen Parkway
2 and Memorial Drive. The 124-acre park offers 4.5 miles of asphalt biking and jogging trails
3 along the bayou. Additional park features include the Jamail Skatepark, the Eleanor Tinsley
4 Park and outdoor amphitheater, Steele Dog Park, Lost Lake Visitor Center, and the Houston
5 Police Officer's Memorial. The Buffalo Bayou Trail is an off-street bike path that follows Buffalo
6 Bayou through several parks into Downtown. Linear Park is located along the south banks of
7 the Buffalo Bayou on the west side of Downtown. Paved trails connect to Buffalo Bayou Park
8 and run under the elevated portion of I-45 into Downtown. In the summer of 2017, Buffalo
9 Bayou Partnership launched the East Sector Master Plan to revitalize 140 acres along the
10 waterway east of Downtown from US 59/I-69 to the Port of Houston Turning Basin (Buffalo
11 Bayou Partnership 2017). Plans include linking the bayou to adjacent neighborhoods and
12 improving underutilized and undeveloped park areas along the bayou (Buffalo Bayou
13 Partnership 2002).

14 The city's long-term bikeway vision plan includes future off-street bike paths that connect to
15 existing bayou trail segments and to several parks in Downtown (City of Houston 2018a). The
16 Downtown District's 20-year vision plan, "Plan Downtown", includes conceptual plans for a
17 five-mile "Green Loop" comprised of green spaces and expansive trails around the edges of
18 central Downtown and multi-functional open spaces that would provide recreational and
19 public assembly opportunities (Downtown District 2017).

Table 4-14: Parks and Recreational Resources in Segment 3 Study Area

Parks and Recreational Areas	Total Area (acres)	Description
American Statesmanship Park	0.1 ac	The American Statesmanship Park is located on the west side of I-45, just north of the I-45/I-10 interchange. The park was built in 2012 and is owned and managed by Harris County Precinct 2. The park, which is also known as “Mount Rush Hour”, consists of 18-foot tall sculptures of Stephen F. Austin, Sam Houston, Abraham Lincoln and George Washington.
Hogg Park	2.3 ac	Hogg Park is located on the east side of the I-45 and the White Oak Bayou between Quitman Street and Hogan Street. The White Oak Bayou Greenway trail system connects to the park. The Leonel Castillo Community Center is located on the northeast side of Hogg Park. The community center is owned and managed by Harris County.
Freed Art and Nature Park	6.2 ac	Freed Art and Nature Park is located on the west side of the I-45/I-10 interchange at the corner of Houston Avenue and White Oak Boulevard. The land was donated to the City of Houston in 2002 by the Frank and Eleanor Freed Foundation. The park is a heavily wooded area surrounded by paved trails that connect to the surrounding parks.
Hennessy Park	1.4 ac	Hennessy Park is located north of I-10 between Maury Street and the railroad. The park has a 0.20-mile paved pathway around the perimeter of the park, a baseball field, a swing set, benches, and a covered pavilion with a basketball court.
Brewster Park	6.0 ac	Brewster Park located north of the Southern Pacific Railroad on the east side of US 59/I-69. The park includes a playground, covered basketball pavilion, benches, and tables.
Linear Park	6.7	Linear Park is located along the south banks of the Buffalo Bayou on the west side of Downtown. The park has paved trails that connect to the Buffalo Bayou Park and run under the elevated portion of I-45 into Downtown.
Sam Houston Park	19.7 ac	Sam Houston Park was the first park built in the City of Houston in 1900. The park occupies approximately 20 acres on the west side of Downtown Houston between I-45 and Bagby Street. Several historic buildings are located in the park, including the Kellum-Noble House, which operates as public museum. The park is fenced and gated, and a paved trail surrounds the perimeter of the park.
Tranquillity Park	4.3 ac	Tranquillity Park was built to honor Houston’s historic role in spaceflight and Apollo 11 landing on the moon in July 1969. This urban park is approximately four acres in Downtown Houston and includes benches, walkways, pools, and water fountains. Several local festivals, art shows, and events are held at the park.
James Bute Park	1.5 ac	James Bute Park is located in Downtown Houston on the south bank of the Buffalo Bayou, between McKee Street and Elysian Street. The park is within the historic Frost Town settlement area. The park is managed by Harris County Precinct 2. Park features include picnic tables, benches, and a jogging trail.
Allen’s Landing Memorial Park	1.8 ac	Allen’s Landing Memorial Park is the site where Augustus C. Allen and John K. Allen first arrived in 1836 and founded the City of Houston. The park is located at the confluence of Buffalo and White Oak Bayous, which was the first port of Houston. The park is located on the south banks of Buffalo Bayou between Main Street and Fannin Street. Park amenities include a dock, promenade area, and walkways along bayou. Park activities include kayaking, canoeing, walking.
Confederate Ship Area	0.8 ac	The Confederate Ship Area is a small green space along the south banks of Buffalo Bayou in Downtown that marks the site of a sunken confederate ship. The park is located at the intersection of Commerce Street and Travis Street near the Allen’s Landing Park. The park stairs lead to pathways along the bayou.

Parks and Recreational Areas	Total Area (acres)	Description
Sesquicentennial Park	8.2 ac	Sesquicentennial Park was established in 1986 to commemorate the 150th anniversary of the founding of Houston. The park occupies eight acres along the banks of Buffalo Bayou in Downtown Houston theater district. Park features include the Allen H. Carruth Promenade, the Baker Common area, artwork and historic photographic display, gardens, paved trails, and a boat launch.
Goyen Park	1.8 ac	Goyen Park is located directly south of the University of Houston Downtown campus, between Milam Street and Main Street. The park is sparsely wooded and includes a garden area maintained by the University of Houston.
Emancipation Park	10.8 ac	Emancipation Park is a historic 10-acre park in Houston's Greater Third Ward. The park was originally built in 1872 to commemorate the Emancipation Proclamation and to provide a location to celebrate Juneteenth. Park renovations include refurbished landscapes and playgrounds, renovation of the park's two historic buildings, a recreation center, full sized baseball field, tennis court, basketball court, large event/performance space, pool and pool house.
Guadalupe Plaza	6.7 ac	The Guadalupe Plaza Park is located on the east side of US 59/I-69 in the Second Ward. The park was originally built as a performance venue in the 1980s. In 2012, the City of Houston was awarded a federal grant to renovate the park. The park reopened in July 2016, and renovations include a splash pad and fountain area, a promenade, performing arts area, and canoe access connecting to Buffalo Bayou.
Swiney Park	2.1 ac	Swiney Park is a sparsely wooded park located on the east side of US 59/I-69 between Gillespie Street and Cline Street. The park includes a 1-mile paved trail, playground equipment, picnic benches, a covered pavilion with basketball courts, and the Swiney Community Center.
Baldwin Park	4.9 ac	Baldwin Park is located in Midtown at the corner of Elgin Street and Chenevert Street. The park was acquired by the City of Houston in 1910. A historic stone fountain is located in the center of the park, which was built in memory of Houston's founding matriarch, Charlotte Allen. The park has several hundred-year-old oak trees, picnic tables, and a playground.
Peggy's Point Plaza Park	0.4 ac	Peggy's Point Plaza Park is located at the corner of Richmond Avenue and Main Street, north of US 59/I-69. The park is fenced and includes a few benches and a decorative fountain in the center of the park.
Peggy Park	9.2 ac	Peggy Park a triangular shaped park located south of SH 288 and US 59/I-69 between Alameda Road, Chenevert Street, and Cleburne Street. The park has a covered basketball pavilion, a playground, picnic tables, and benches.

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4.6 Transportation Facilities

Transportation facilities in the project area include bus and light rail services, freight railroads, an airport, roadways, and transit centers. METRO facilities include bus routes throughout the project study area with several stops and transit centers where bus routes and/or rail lines converge. METRO Light Rail Transit (LRT) lines run north-south from south of Downtown to the Northline Transit Center and east-west across Downtown and through east Downtown. Transit facilities, railroads, and roadways in the project study area are illustrated in the exhibits in Appendix F. Bike paths and trails in the project area are primarily designated for transportation purposes but also used for recreation and are discussed in Section 4.5.

4.6.1 Transit Facilities

Transit centers are important access nodes that support high levels of service to a variety of destinations. The Greenspoint Transit Center (12455 Greenspoint Drive), Acres Home Transit Center (1220 West Little York Road), and the Northline Transit Center (7705 Fulton Street) are located within one mile of I-45 in the Segment 1 project area. The only Park & Ride facility within the proposed project area is the METRO North Shepherd Park & Ride in Segment 1, located west of I-45 near North Shepherd Drive. The METRO North Shepherd Park & Ride has a direct connection with the I-45 HOV lane and provides service to the Downtown central business district and other transit centers. The Burnett Transit Center (Burnett Street and Everett Street) is located approximately one-half mile east of I-45. The Downtown Transit Center (1900 Main Street) and the Wheeler Transit Center (4500 ½ Main Street) are located in the Segment 3 project area.

The METRO LRT system began operation on January 1, 2004. The first portion of the Red Line travels along Main Street from NRG Park to the University of Houston-Downtown campus with 16 stops along the route. The North/Red Line extension, which opened in December 2013, connects the University of Houston-Downtown campus to the Northline Transit Center. Today the Red Line extends 13 miles and serves 25 stations.

METRO expanded the light rail system to include two more LRT lines. The East End/Green Line extends 3.3 miles and travels along Harrisburg Boulevard from the Magnolia Transit Center, located east of Downtown, to the Theater District Station, and serves nine stations. The Southeast/Purple Line, which serves 10 stations, extends 6.6 miles and connects the Downtown area to the Palm Center Transit Center which is southeast of the Third Ward super neighborhood. On November 5, 2019 voters approved the METRONext Moving Forward Plan, which included a \$3.5 billion bond referendum (METRO 2019). The Plan includes 290 miles of route enhancements, and signature bus service plus accessibility and other improvements for disabled and senior residents. Funding for the rest of the \$7.5 billion Plan is expected to come from federal grants and future revenue.

4.6.2 Railroads

Several active freight railroad lines traverse the general vicinity of the project area. The Union Pacific (UPRR) rail line parallels the Hardy Toll Road from north of Beltway 8 to I-610. The rail line crosses under I-610, and two separate rail lines run north-south between I-610 and I-10 on the east side of the Near Northside super neighborhood, adjacent to industrial development. One rail line parallels the Elysian Viaduct, passes under I-10 and US 59/I-69, and then veers to the east near Commerce Street. The other rail line travels west (towards the Hardy Yards) approximately one-half mile north of the I-10 and US 59/I-69 interchange and continues westward on the north side of I-10. The UPRR main rail lines and Amtrak lines run east-west through a portion of the project area and cross the north-south UPRR lines on the northwest side of the I-10 and US 59/I-69 interchange. The main rail lines and Amtrak lines cross over at I-10 and then proceed west, paralleling Washington Avenue. Burlington Northern Santa Fe (BNSF) has an east-west rail line paralleling the north side of I-610.

The Houston Belt and Terminal (HB&T) West Belt line crosses I-10 and US 59/I-69 at the center of the Downtown portion of the project. The UPRR and BNSF railways conduct daily train operations on these railroad tracks.

Railroad Operations are under the jurisdiction of the federal Surface Transportation Board (STB). "The agency has jurisdiction over railroad rate and service issues and rail restructuring transactions (mergers, line sales, line construction, and line abandonments); certain trucking company, moving van, and non-contiguous ocean shipping company rate matters; certain intercity passenger bus company structure, financial, and operational matters; and rates and services of certain pipelines not regulated by the Federal Energy Regulatory Commission. The agency has authority to investigate rail service matters of regional and national significance" (Surface Transportation Board n.d.).

4.6.3 Airports

The George Bush Intercontinental Airport (2800 North Terminal Road) is located approximately eight miles northeast of the proposed project area. Taxis, shuttles, and one METRO express bus route connect George Bush Intercontinental Airport to hotels and employment centers, including Greenspoint Mall and Downtown Houston.

5 IMPACTS OF THE PREFERRED ALTERNATIVE

5.1 Displacements

The Preferred Alternative would require new right-of-way, which would displace single- and multi-family homes, schools, places of worship, businesses, billboards, and other structures. Sheds, garages, or covered parking structures are not included in the displacement count. Displacements classified as “other” in this analysis include establishments that are not residential or commercial uses, places of worship, or schools.

Exhibits and detailed lists of displacements for the Preferred Alternative are provided in Appendix G. Displacements listed in Table G-1 are assigned a map identification number (Map ID No.) that corresponds to the parcel labels in the exhibit. Each displacement listed in Table G-1 includes the HCAD property identification, type of displacement, and property address (if available). Displaced billboards are not shown in Appendix G, Exhibit G-1 because they are likely located on existing business or residential properties. If the proposed right-of-way would cross a portion of a property but would not displace a building, a displacement is not shown on Exhibit G-1.

The estimated number of displacements has changed since the 2017 NHHIP CIA Technical Report and Draft EIS due to changes in the proposed project right-of-way, including the addition of storm water detention basins, and changes in existing land use and occupancy. The use of the 25-foot criterion used to assess impacts likely results in a greater number of displacements than would actually occur (see Section 5.9). TxDOT will coordinate with individual property owners during right-of-way acquisition and it is likely that some of the structures could remain if not within the project right-of-way.

5.1.1 Summary of Impacts

Table 5-1 summarizes the estimated number of single-family residences, multi-family residential units, schools, businesses, billboards, places of worship, and other displacements.

1

Table 5-1: Total Displacements in the Project Area

	Total
Single-Family Residential	160
Multi-Family Residential*	433
Public and Low-Income Housing	486
Business	344
Billboard	58
Place of Worship	5
School	2
Parking Business	5
Other	11

2

Source: NHHIP Study Team 2019

3

Note: NHHIP Study Team verified displacements with 2019 Google Earth aerial imagery files,

4

2019 H-GAC imagery files, and limited field investigation.

5

*Multi-family residential units are located within apartment communities.

6

5.1.1.1 Other Displacements

7

The Preferred Alternative would cause displacements classified as “Other” which include:

8

- A portion of a large CenterPoint Energy utility easement (Appendix G, Map ID No. 1)

9

- AVANCE, nonprofit job placement and training (Appendix G, Map ID No. 173);

10

- Texas Health and Human Services Office (Appendix G, Map ID No. 411)

11

- Northline Single Room Occupancy (SRO) facility, which is now closed (Appendix G, Map ID No. 212)

12

13

- Mexican Consulate (Appendix G, Map ID No. 409)

14

- SEARCH Homeless Services (Appendix G, Map ID No. 345)

15

- Loaves and Fishes Magnificat Houses Ministries (Appendix G, Map ID No. 346)

16

- Fatima House (Appendix G, Map ID No. 434)

17

- Helping Hands Charity (Sloan Memorial United Methodist Church property)

18

(Appendix G, Map ID No. 335)

19

- University of Houston parking and administrative building (Appendix G, Map ID No. 305)

20

21

- The South Central Police Station (Appendix G, Map ID No. 378) is adjacent to the proposed right-of-way of the Preferred Alternative. Although a proposed exit ramp from US 59/I-69 North to Gray Street was modified to avoid direct impacts to the City of Houston Police Department (HPD) building, access to the remaining property would not be adequate and the HPD would have to relocate. TxDOT is coordinating with the COH and HPD and to determine a suitable location for a replacement facility.

22

23

24

25

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5.1.1.2 Parking Business

Several paid parking lots located in the Downtown area provide parking for large public gatherings at stadiums, arenas, and special events. These parking lots are included in the displacement totals and are classified as parking business displacements.

Table 5-2 shows the estimated total number of housing units that would be displaced, including single-family homes and multi-family units, renter and owner occupied housing units, and housing units with an unknown occupancy type.

Table 5-2: Multi-family, Single-family, and Occupancy Type for Residential Displacements

Displacements	Number	Percent
Single-Family Units	160	15
Multi-Family Units*	919	85
Total Displaced Housing Units	1,079	100
Owner Occupied Units	76	7
Rented Units	1,003	93

Source: HCAD 2019

*Multi-family residential units are located within apartment communities. Approximately 486 of the multi-family units are low-income housing operated by HHA or nonprofit organizations.

5.1.1.3 Apartment / Multi-family Displacements

Within the project area, all or a portion (some buildings) of 16 multi-family housing facilities would be displaced. Table 5-3 lists the multi-family housing units that would be impacted by the proposed project. Four of the facilities are low-income or public housing.

As of June 2019, there was an adequate supply of comparable apartment complexes in the same key map area of the apartment buildings that would be displaced. TxDOT contacted all affected apartment complexes to discuss potential impacts. TxDOT is coordinating with owners of the Isabella Apartments and Lofts at the Ballpark for advance acquisition of the properties.

Table 5-3: Apartment / Multi-Family Displacements in the Project Area

Name/Current Owner	Segment Number	Address	Key Map Page	Super Neighborhood Name	Units Displaced	Price of Unit per Month	Units Available in Key Map area (June 2019)
Mission Realty (Appears Unoccupied)	1	4212 NORTH FWY, Houston, TX, 77022	453	Northside/ Northline	6	N/A	310
La Vista Apartments	1	4920 MARABLE, Houston, TX, 77022	453	Independence Heights	54	\$580-680	310
Ventana Gardens Apartments	1	5135 NORTH FWY, Houston, TX, 77022	453	Independence Heights	84	\$800	310
North Wind Apartments	2	310 ROBERT E LEE, Houston, TX, 77009	453	Near Northside	18	\$900	310
Nobel Apartments LLC	2	306 NORTH ST, Houston, TX, 77009	493	Near Northside	41	\$1,200	1,886

Name/Current Owner	Segment Number	Address	Key Map Page	Super Neighborhood Name	Units Displaced	Price of Unit per Month	Units Available in Key Map area (June 2019)
Buffalo River Holdings	3	4002 CHARTRES ST, Houston, TX, 77004	493	Greater Third Ward	4	N/A	1,886
Estate of Robert Carney	3	4220 LA BRANCH ST, Houston, TX, 77004	493	Museum Park	6	N/A	1,886
Wang Properties LLC.	3	3901 HAMILTON ST, Houston, TX, 77004	493	Greater Third Ward	8	N/A	1,886
Midtown INV INC.	3	3911 CHENEVERT ST, Houston, TX, 77004	493	Greater Third Ward	12	N/A	1,886
Isabella Apartments LLC	3	1901 ISABELLA ST, Houston, TX, 77004	493	Greater Third Ward	18	\$1,150	1,886
Abrego Ventures Inc.	3	1815 ISABELLA ST, Houston, TX, 77004	493	Greater Third Ward	22	N/A	1,886
Kelly Village (Houston Housing Authority)	3	3118 Green St. Houston, TX, 77020	494	Greater Fifth Ward	50	Varies based on income	Property owner is building comparable replacement multi-family housing units
Cloud Break Houston, LLC (Midtown Terrace Suites)	3	4640 Main St. Houston, TX, 77002	493	Midtown	60	Varies based on income	Property owner is building comparable replacement multi-family housing units
Temenos Place II LLC	3	2200 Jefferson St. Houston, TX, 77003	493	Downtown	80	Varies based on income	Property owner is building comparable replacement multi-family housing units
Clayton Homes (Houston Housing Authority)	3	1919 Runnels St. Houston, TX, 77003	493	Second Ward	296	Varies based on income	Property owner is building comparable replacement multi-family housing units
Bel Emanuel Holdings LLC (Lofts at the Ballpark Apartments)	3	610 St. Emanuel St. Houston, TX, 77003	493	Downtown	165	N/A	1,886

1

2 5.1.2 Displacements and Relocations

3 TxDOT's acquisition and relocation assistance program would provide assistance to residents
4 and businesses that are required to relocate. The relocation assistance program is conducted
5 in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies
6 Act of 1970, as amended. Relocation resources are available without discrimination to all
7 residents and businesses required to relocate as a result of implementation of the proposed
8 project. No person would be displaced by the proposed project unless and until adequate
9 replacement housing has already been provided or is in place. Replacement housing would
10 be fair housing and would be offered to all displaced persons regardless of race, color,

1 religion, sex, or national origin. All replacement housing would be decent, safe, and sanitary,
2 without causing undue financial hardship.

3 Residents who are displaced as a result of the NHHIP will receive assistance to relocate. This
4 assistance applies to tenants as well as owners occupying the property. Homeowners will
5 receive a fair market value offer for their property. Additionally, TxDOT's relocation assistance
6 program will supplement and assist with additional costs associated with purchasing a
7 replacement home to the extent that replacement home values exceed the final
8 compensation paid to the homeowner. Available relocation assistance also includes
9 reimbursement of moving costs and certain related expenses incurred in moving.

10 Each displaced person will be given sufficient time to plan for an orderly, timely and efficient
11 move. TxDOT's goal for notification to displacees is to notify them at least 180 days before
12 they need to move. Earlier acquisition to accommodate hardships or other needs will be
13 considered. Otherwise, contact with property owners will be phased based on acquiring
14 needed right-of-way and adjusting utilities to meet the construction schedule.

15 Estimated Construction Start Dates:

- 16 ▪ Segment 1 – no sooner than 2025
- 17 ▪ Segment 2 – late 2023
- 18 ▪ Segment 3 – late 2021

19 No person lawfully occupying real property will be required to move from that site without at
20 least a 90-day written notice.

21 In addition to fair market value for the property, qualifying owners will receive a purchase
22 supplemental as well as assistance with incidental costs necessary to purchase a comparable
23 decent, safe, and sanitary replacement dwelling. The purchase supplemental includes the
24 amount that a comparable replacement dwelling exceeds the acquisition cost of the
25 displacement dwelling and certain loan-related fees and costs. Supplemental assistance
26 provides the opportunity for displaced residents to relocate to a comparable residence in the
27 same neighborhood even though the cost of the replacement home might be more than the
28 acquisition cost of the displacement dwelling.

29 For tenants, a rental assistance supplement will be available to assist when renting a decent,
30 safe and sanitary replacement dwelling. TxDOT will determine the maximum payment
31 available in accordance with established procedures.

32 Owner-occupants of less than 90 days and tenants may be eligible for down-payment
33 assistance and related incidental expenses, not to exceed the amount of the approved rental
34 assistance supplement. Incidental expenses for replacement housing include the reasonable
35 costs of loan applications, recording fees and certain other closing costs.

36 Displaced residents will be offered relocation assistance in the form of individual advisory
37 services for the purpose of locating a suitable replacement property. These services will be

provided by qualified personnel employed by, or contracted with, TxDOT. In providing these services, TxDOT will consider language needs, mobility restrictions and other special provisions that might be needed to communicate these services to the intended audience. These services are intended to guide the affected residents through the process and facilitate the transition into the new residence.

Individual advisory services will:

- Determine needs and preferences of displacees
- Explain relocation benefits
- Offer transportation if necessary
- Assure the availability of a comparable residential property in advance of displacement
- Provide current listing of comparable properties
- Provide the amount of the replacement housing payment in writing
- Inspect residential dwellings for decent, safe and sanitary acceptability
- Supply information on other federal and state programs offering assistance
- Provide counseling to minimize hardships

Group/Program informational workshops will supplement the individual advisory services and will include:

- Explaining the acquisition process
- Explaining the relocation process
- Explaining the appraisal process
- Title Information and review of documents
- Property tax and exemption impacts
- Moving and move planning
- First Time Homebuyer seminars
- Escrow process and title clearing
- How to get social services and benefits
- How to select a real estate agent
- How to check your credit and improve your score
- Household budgeting
- Household maintenance

5.1.2.1 Single-Family Residential Displacements and Relocations

A search for single-family homes for sale or lease within three to five miles of the project corridor (based on the boundaries of the 15 adjacent Key Map® areas) was performed using

the HAR Multiple Listing Service website. The methodology used to identify replacement housing is discussed in Section 3.4.3.

Based on an analysis conducted in May-June 2019, comparable replacement housing is currently available along each segment of the project corridor. Availability of single-family residential homes for sale by price range is shown in Table 5-4. As shown in this table, comparably priced housing is not currently available in the same Key Map® area. Many potential displaced structures are valued at less than the average home price in the area. However, some comparably priced housing is currently available in adjacent Key Map® areas. TxDOT is coordinating with the City of Houston and affordable housing providers to identify opportunities to build affordable housing in same neighborhoods where residents would be displaced. Mitigation for residential relocations is also discussed in Section 5.1.2, Section 5.9.3.1, and Section 6.

Availability of single-family residential homes for lease based on monthly rent is shown in Table 5-5. As of June 2019, there appears to be a shortage of single-family homes for lease in the lower ranges of monthly rents.

Some Key Map® areas are applicable to more than one segment, but for the purpose of this analysis the Key Map® areas were assigned to segments by means of best fit. Therefore, some displaced properties may be displayed as located in a different segment due to the ascribed Key Map® area.

Some Key Map® areas are applicable to more than one segment; therefore, available housing estimates may be included in multiple segments. Areas with more than 240 homes available for sale or lease may have a considerable amount of new construction.

Table 5-4: Residential Property for Sale Compared to Number of Displacements in Search Areas (June 2019)

Segment	Key Map® Area		Number of Single-Family Properties for Sale by Price Range / Number of Single-Family Displacements by Appraised Value						
			\$40k-\$90k	\$90k-\$140k	\$140k-\$190k	\$190k-\$205k			
1	371	Sale	0	25	77	14			
		Disp.	0	0	0	0			
	372	Sale	5	10	32	2			
		Disp.	0	0	0	0			
	373	Sale	3	6	9	4			
		Disp.	0	0	0	0			
	411	Sale	2	-	41	11			
		Disp.	0	0	0	0			
	412	Sale	10	25	48	7			
		Disp.	1	5	1	0			
	413	Sale	0	10	14	0			

Segment	Key Map® Area		Number of Single-Family Properties for Sale by Price Range / Number of Single-Family Displacements by Appraised Value						
		Disp.	0	0	0	0			
			\$40k- \$100k*	\$100k- \$200k	\$200k- \$300k	\$300k- \$400k	\$400k- \$500k	\$500k- \$565k	
2	452	Sale	2	6	53	167	111	51	
		Disp.	3	2	0	0	0	0	
	453	Sale	6	45	59	71	49	23	
		Disp.	11	22	1	2	1	0	
	454	Sale	23	28	10	2	0	0	
		Disp.	0	0	0	0	0	0	
			\$25k-\$100 k	\$100k- \$300k	\$300k- \$500k	\$500k- \$700k	\$700k- \$900k	\$900k- \$1.5mil	\$1.5mil- \$2.4mil
3	492	Sale	0	47	269	205	99	92	80
		Disp.	0	0	0	0	0	0	0
	493	Sale	4	80	242	105	64	44	14
		Disp.	0	9	2	2	0	0	2
	494	Sale	9	70	91	1	1	0	0
		Disp.	7	4	0	0	0	0	0
	532	Sale	10	83	122	48	27	110	86
		Disp.	0	0	0	0	0	0	0
	533	Sale	26	138	51	19	4	2	3
		Disp.	0	0	0	0	0	0	0
	534	Sale	12	75	19	1	0	0	0
		Disp.	0	0	0	0	0	0	0
Total Single-Family Properties for Sale							3,343		
Total Single-Family Displacements (Owner Occupied)							75		

Disp. = Displacements

Source: HAR 2019, HCAD 2019

Note: Price ranges were determined by best fit of Key Map® area to segment; 2019 HCAD appraised values were used to determine displaced property values and include land and all buildings on parcel—not just displaced structures; if 2019 HCAD values were not available, 2018 values were used; if multiple properties were located on the same parcel and could not be distinguished, the same appraised value was used for all properties.

*Minimum values were set lower than Segment 2 minimum because these Key Map® areas are partially located in Segment 1.

Table 5-5: Single-Family Residential Properties for Lease (June 2019)

Segment	Key Map® Area	Number of Single-Family Properties for Lease by Monthly Rent			Single-Family Displacements
		\$500-\$1,000	\$1,000-\$2,000	\$2,000-\$3,000	
1	371	1	28	0	0
	372	0	21	0	0
	373	1	6	0	0

Segment	Key Map® Area	Number of Single-Family Properties for Lease by Monthly Rent			Single-Family Displacements
		\$500-\$1,000	\$1,000-\$2,000	\$2,000-\$3,000	
	411	0	30	0	0
	412	0	15	0	7
	413	0	2	0	0
2	452	0	26	47	8
	453	2	51	14	84
	454	1	11	0	0
3	492	1	51	105	0
	493	3	64	111	30
	494	5	30	11	31
	532	8	85	63	0
	533	9	91	18	0
	534	2	32	2	0
Total Single-Family Homes		33	543	371	160

Source: HAR 2019

Note: Monthly rents for displaced single-family properties could not be determined from HCAD records.

5.1.2.2 Multi-Family Units (Apartment Communities) Displacements and Relocations

Available replacement multi-family units were identified from HCAD records for apartment buildings with at least four units. In accordance with the *2019 Second Quarter Houston Multifamily Report*, a 7.1 percent vacancy rate was applied to estimate the number of apartment units that are available (Institutional Property Advisors 2019). Replacement multi-family units for lease were searched within three to five miles of the project corridor. Several apartment locators and real estate professionals were contacted to obtain monthly rental cost rates for available apartments. However, due to the large scale of the project they could not provide specific rental rates in these areas. The apartments are located in the same neighborhoods and key maps areas.

Within Segment 3, two public housing communities (multi-family units), and two privately owned low-income housing communities (multi-family units) would be impacted. Relocation accommodations for public and low-income housing are discussed in Section 5.1.2.3.

The estimated number of available multi-family residential units for lease (apartment communities), based on 2019 vacancy rates, is provided in Table 5-6. The number of available multi-family units for lease is tabulated by study segment and Key Map® page. Some Key Map® areas are applicable to more than one segment; therefore, available housing may be included in multiple segments. Sufficient data was not available to provide a comparison of the number of bedrooms and cost. Based on available data reviewed for the analysis, replacement multi-family units were available in two of the three Key Map® areas where

apartments would be displaced; however, housing availability fluctuates. Displaced tenants will receive relocation assistance, as discussed in Section 5.9.3.1.

Table 5-6: Multi-Family Units for Rent or Lease

Segment	Key Map® Area	Total Multi-Family Units	Available Multi-Family Units	Displacements in Key Map® Area
1	371	2,650	188	0
	372	13,484	957	0
	373	7,629	542	0
	411	6,427	456	0
	412	2,110	150	0
	413	1,342	95	0
2	452	6,159	437	0
	453	4,360	310	162
	454	3,793	269	0
3	492	21,843	1,551	0
	493	26,570	1,886	691*
	494	4,384	311	50**
	532	17,107	1,215	0
	533	13,507	959	0
	534	5,303	377	0
Total Multi-Family Units		88,714	6,299	903

Source: NHHIP Study Team

Note: * Includes some units at Clayton Homes; replacement housing will be provided by HHA.

** Includes some units at Clayton Homes and units at Kelly Village; replacement housing will be provided by HHA.

5.1.2.3 Clayton Homes and Kelly Village

5.1.2.3.1 Background

Clayton Homes and Kelly Village communities are composed of public housing facilities funded through the federal Low-Rent Public Housing Program that is administered through the Houston Housing Authority (HHA). The program provides quality, affordable rental housing for families, seniors, and persons with disabilities (HHA 2016).

Clayton Homes, located at 1919 Runnels Street in Houston, Texas was established in 1952 on property donated by local philanthropist, Susan V. Clayton. The property was renovated in 2007 and currently consists of 296 townhouse style, multi-family units on 21.3 acres. However, 112 of the existing units were damaged by Hurricane Harvey in 2017 leaving 184 livable units housing 672 residents.

Kelly Village, formerly known as Kelly Courts, is located at 3118 Green Street in Houston, Texas. The community was established in 1939 and is one of the HHA's earliest properties. Prior to desegregation, Kelly Village (Courts) was designed to serve as low-income housing for Houston's African American population. Kelly Village consists of 270 multi-family units, housing 738 residents on 11.18 acres.

5.1.2.3.2 Community Impacts

The proposed right-of-way of the Preferred Alternative would displace all 296 units of Clayton Homes, resulting in the displacement of approximately 672 residents. Approximately 50 units of Kelly Village would be displaced and a portion of the Kelly Village Community Park. Three bus stops adjacent to I-10 around Kelly Village will also be temporarily impacted. One METRO bus stop located on Gregg Street is adjacent to the housing community and could be used as an alternative bus stop during relocation of the existing bus stops.

Table 5-7: Clayton Home and Kelly Village Impacts

	Number of Current Units	Number of Current Residents	Additional On-Site Services or Resources	Number of Units Impacted	Number of Residents to be Displaced	Other services or resources impacted
Clayton Homes	296	672		296	672	None
Kelly Village	270	738	Kelly Village Community Park	50	(TBD)	Portions of Kelly Village Community Park, temporary impacts to 3 bus stops

5.1.2.3.3 Community Involvement and Coordination

Beginning in 2014, TxDOT began coordinating with representatives of HHA as part of on-going outreach during the early phases of project development. In a letter dated May 12, 2014, the HHA committed to “cooperate with TxDOT should the project move forward”.

In February 2017, TxDOT met with HHA representatives to discuss the status of the project, review the potential impacts and discuss the upcoming public hearing. Additionally, HHA representatives provided high-level information on the HUD relocation process for displaced individuals and the HHA’s general vision for replacement housing.

In May 2017, HHA held on-site informational meetings for residents of Clayton Homes and Kelly Village. The first meeting, held on May 17, 2017 at Kelly Village, was attended by approximately 30 residents and various staff from TxDOT and HHA. Residents were provided with information on the overall project, units that would be impacted including portions of the private park at Kelly Village, relocation services and housing resources. A question and answer session followed the formal presentation. Simultaneous translation in Swahili was provided by HHA.

Approximately four questions were posed by residents during the question and answer session. In general, the questions were focused on what would happen to the Kelly Village on-site park, eligibility to relocate since not all buildings were proposed to be impacted, and utility assistance.

The second meeting was held on May 18, 2017 at Clayton Homes and approximately 60 residents attended along with various staff from TxDOT and HHA. Residents were provided with information on the overall project and were made aware that all units would be impacted. In addition, information was provided to residents on relocation services and housing

resources. A question and answer session followed the formal presentation. Simultaneous translation in Swahili, Spanish, and Haitian Creole was provided by HHA.

Approximately eleven questions were posed by residents during the question and answer session. The majority of questions were related to Housing Choice Vouchers (formerly Section 8), including eligibility, timing and geographic relocation options. Residents also asked questions related to impacts to the local elementary school and the availability of housing for senior citizens.

Throughout 2019, TxDOT representatives met with HHA representatives to discuss advance acquisition of Clayton Homes and Kelly Village, and discuss HHA's plans and schedule for building replacement housing. It is anticipated that meetings will be continuous and on-going between TxDOT and HHA throughout the acquisition, construction and relocation process.

5.1.2.3.4 Mitigation and Commitments

Actions taken to mitigate impacts to Clayton Homes and Kelly Village are focused on ensuring that displaced residents of both communities are provided with multiple relocation options resulting in minimal disruptions to their lives. This includes eliminating the need to move multiple times, minimizing interruption to current employment and allowing children to remain in the same school district.

5.1.2.3.4.1 Clayton Homes

In a HUD approved agreement between TxDOT and the HHA, TxDOT will purchase the entire Clayton Homes property through advance acquisition. The purchase price of \$90 million dollars will include the land and all associated improvements. The advance acquisition of the property will allow the HHA additional time to identify a new location for replacement housing and adequate time for construction. Through an occupancy agreement with TxDOT, current residents will not be required to relocate until such time that the land currently occupied by Clayton Homes is needed for construction of the NHHIP. This occupancy agreement is intended to provide certainty that Clayton Homes residents will only need to move once—from Clayton Homes to the relocation option of their choosing.

Residents of Clayton Homes will be offered multiple relocation options; Housing Choice Voucher Program (formerly Section 8), to move to areas of higher economic opportunity; or new replacement housing, with current residents given first right to reside in the new replacement housing units once constructed. The replacement housing units will be provided through a combination of replacement housing, public/private partnerships and rental programs for an optimal fit for participants in the HHA assistance programs

All replacement housing will be constructed within the city limits of Houston, Texas. The current HHA plan will be to reestablish 70 percent of the units within a one mile radius of the current Clayton Homes location. HHA is committed to 100 percent of the units being constructed within five years from the closing date of the purchase agreement between TxDOT

1 and HHA. All relocation services will be coordinated by HHA in accordance with the Uniform
2 Relocation Act and reimbursed by TxDOT.

3 *5.1.2.3.4.2 Kelly Village*

4 In a similar agreement, currently being negotiated with HHA and pending approval from HUD,
5 TxDOT will purchase a minimum of 50 Housing Units and all or a portion of the adjacent
6 community park at Kelly Village. Displaced residents of Kelly Village will be assigned relocation
7 specialists located onsite to assess resident's needs and provide a smooth transition into
8 other housing options. Displaced residents of Kelly Village will be offered a Section 8 Voucher,
9 or be given priority to reside in other HHA units. Mitigation for impacts to the private park for
10 Kelly Village residents will be negotiated as part of the pending agreement. TxDOT is
11 coordinating with METRO to ensure all bus stops impacted by the project will be placed at
12 locations that work with METRO's bus network.

13 *5.1.2.4 Other Low-Income Housing*

14 The proposed project would also displace privately owned housing projects for low-income
15 individuals and persons with disabilities at Temenos Place Apartments II and the Midtown
16 Terrace Suites, both located in the Segment 3 study area.

17 The Temenos Place Apartments II opened in late 2016 and offers affordable housing for
18 low-income individuals, homeless individuals, and persons with disabilities. The Temenos
19 Place Apartments II has 80 units, and the Preferred Alternative would displace all 80 units.
20 TxDOT approved advance acquisition of this property. Advance acquisition provides additional
21 time for relocation and reestablishment. Temenos Place Apartments II plans to build a similar
22 housing facility in the same area of town and within the same zip code. During the relocation
23 process, tenants will be able to remain in the existing facility for the agreed amount of time
24 negotiated between the property owner and TxDOT.

25 The Midtown Terrace Suites has a total of 286 units and provides transitional and long-term
26 housing and support services for veterans. The Preferred Alternative would displace one of
27 the buildings, which has approximately 60 multi-family residential units. Displaced tenants
28 would be accommodated within the same complex after renovations are complete.

29 Three apartment complexes where displacements would occur have apartment units rented
30 by individuals with housing vouchers: Isabella Apartments, 1901 Isabella Street (two units);
31 private apartments owned by Midtown Apartments (two units), 3929 and 3933 Chenevert
32 Street; and Ventana Apartments, 5135 North Freeway (13 units) (HHA 2018). Tenants can
33 relocate to other facilities that accept housing vouchers. TxDOT will assist residents to find
34 comparable replacement housing and will assure tenant occupant will not be required to
35 move unless at least one comparable replacement dwelling is available.

36 *5.1.2.5 Business Property Displacements and Relocations*

37 The identification of business properties for sale and lease was based on an area search by
38 zip code using the LoopNet™ website. As of October 2019, LoopNet™ listed 108 properties

1 for sale and 307 properties for lease in the project area (LoopNet™ 2019). The currently
2 available office/retail properties might be adequate for displaced businesses that currently
3 operate in strip shopping centers and office/retail spaces. However, businesses dependent
4 on freeway frontage such as service stations, motel/hotels, and auto dealers may have a
5 harder time finding locations adjacent to the freeway. Available large industrial properties and
6 land for sale or lease near the proposed project may accommodate the relocation of
7 businesses that currently operate on larger properties. Other retail/office and industrial
8 properties may be available for sale or lease that are not included in the LoopNet™ listings.
9 Redevelopment of commercial properties along the project corridor could also accommodate
10 displaced businesses interested in relocating. Real estate availability fluctuates and could
11 change by the time right-of-way acquisition occurs. Relocation assistance for businesses will
12 be provided by TxDOT and is summarized in Tables 6-1 and 6-2.

13 Available office/retail and industrial properties, and vacant parcels for sale were searched by
14 zip codes adjacent to the project corridor, as shown in Table 5-8. Available office/retail,
15 industrial, and land properties for lease were searched by zip codes adjacent to the project
16 corridor, as shown in Table 5-9.

1

Table 5-8: Commercial and Industrial Property for Sale (October 2019)

Zip Code	Office/Retail Properties	Industrial Properties	Vacant Parcels	Number of Business Displacements by Zip Code
Segment 1				
77018	-	1	6	0
77022	-	3	4	84
77037	-	4	2	90
77038	-	-	3	8
77060	-	2	3	14
77067	1	-	5	0
77076	1	1	2	31
77088	-	2	4	9
77091	1	2	-	9
Segment 2				
77008	1	3	3	0
77009	2	-	1	29
Segment 3				
77002	1	1	5	6
77003	1	1	11	45
77004	4	-	1	9
77006	3	-	1	0
77007	2	4	2	0
77019	-	-	3	0
77020	3	4	3	10
77026	-	-	1	0
Total	20	28	60	344

2

Source: LoopNet™ 2019

1

Table 5-9: Commercial and Industrial Property for Lease (October 2019)

Zip Code	Office/Retail Properties	Industrial Properties	Vacant Parcels	Number of Business Displacements by Zip Code
Segment 1				
77018	3	8	-	
77022	2	6	1	84
77037	1	5	-	90
77038	2	4	-	8
77060	17	6	-	14
77067	6	3	-	
77076	-	-	-	31
77088	-	-	-	9
77091	-	1	-	9
Segment 2				
77008	14	10	-	
77009	3	2	-	29
Segment 3				
77002	42	1	-	
77003	-	9	1	45
77004	4	-	-	9
77006	7	-	-	
77007	69	2	1	
77019	57	-	-	
77020	12	4	3	10
77026	-	1	-	
Total	239	62	6	

Source: LoopNet™ 2019

2
3

5.2 Community Cohesion

This Section addresses the important question of what is the community cohesion issue and why it is important in the context of the NHHIP project? In simple terms, community cohesion consists of the elements that “glue” a community together. To investigate this concept, it is necessary to look beyond the project segments and consider whole neighborhoods potentially impacted by major infrastructure projects. Therefore, this Section describes each of the 17 super neighborhoods in the project area including brief subsections on history, current demographics, land use and community facilities, and future vision and goals. The subsequent subsections address the following questions as appropriate for each super neighborhood, based on the degree of impact: What are the ways in which the community cohesion could be affected by the project? Where will these community cohesion effects be felt and who will be affected? What is the effect and/or risk related to community cohesion? If there is risk related to community cohesion, what measures will be taken mitigate the risk? The concept of community cohesion is closely tied to direct impacts such as displacements. Displacement of residences is an effect that is associated with community cohesion. The disruption associated with moving can affect a resident’s access to a social structure to which they have become familiar over time. This social structure can include community activities (church and school) and other regular routines such as grocery shopping, childcare and medical services. Individual circumstances dictate the extent of adverse effects related to residential displacements. Community cohesion is also tied to indirect or ambient impacts that can occur to communities that remain after project development, such as noise, air quality, and changes in travel patterns. The subtopics of noise, air quality, and changes in travel patterns are discussed in detail in other sections of this report. Environmental justice is addressed on its own to ensure that impacts and mitigation measures are fully addressed. See additional sections within Section 5 for more detailed discussion of these related concerns. Proposed mitigation measures are discussed in Section 6.

5.2.1 Segment 1 Super Neighborhoods

Segment 1 crosses five super neighborhoods. Super neighborhoods on the east side of I-45 include Greater Greenspoint and Northside/Northline. Neighborhoods on the west side of I-45 include part of Greater Greenspoint, Hidden Valley, Acres Home, Northside/Northline, and Independence Heights⁴. The neighborhoods in the northern portion of Segment 1 (Greater Greenspoint and Hidden Valley) developed in the 1960s and are characterized by single-family tract homes. Acres Home, Northside/Northline, and Independence Heights are well-established neighborhoods with single-family homes and multi-family units. Acres Home and Independence Heights developed in the late 1930s and 1940s, respectively, and development in Northside/Northline increased after the North Freeway was constructed. Some abandoned buildings are located on the west side of I-45.

5.2.1.1 Greater Greenspoint

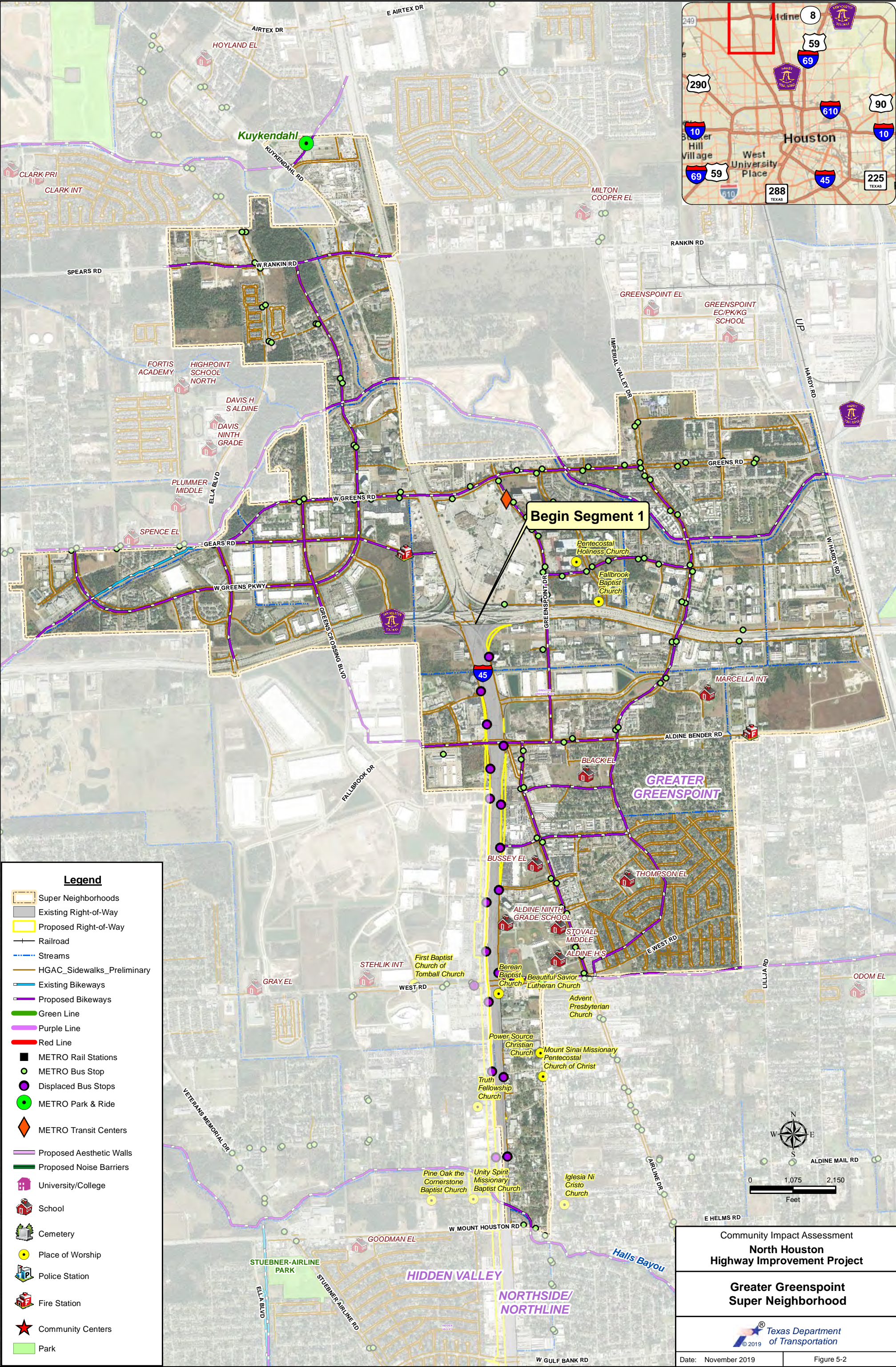
Greater Greenspoint super neighborhood extends on the east and west side of I-45 to the north of the I-45 and Beltway 8 interchange and on the east side of I-45 south of the I-45/Beltway 8 interchange to West Mount Houston Road. The southwest corner of the I-45/Beltway 8 interchange is also within the boundary of the Greater Greenspoint super neighborhood. See Figure 5-2 for the location and boundaries of the Greater Heights super neighborhood.

History:

Greater Greenspoint was developed around the Greenspoint Mall in the 1970s and 1980s. The area began to see commercial growth after the Bush Intercontinental Airport opened in 1969. The development of office space around the mall supported the construction of apartment complexes, many of which are now in a deteriorated state. The neighborhood is currently undergoing a revitalization (City of Houston 2019e).

The original subdivisions here were developed for Houstonians seeking moderately priced homes within the district boundary of the Aldine Independent School District (Aldine ISD) and close to the North Freeway. The opening of Bush Intercontinental Airport in 1969 transformed the intersection of I-45 and Beltway 8 into a commercial crossroads (McGuire 2019). The subsequent rapid development of office space around the mall provided the jobs to support massive construction of apartment complexes, which now dominate much of the landscape. The real estate bust of the last decade produced significant deterioration in those complexes and led to the creation of a management district. Crime has been significantly reduced and renovation of the apartments led to a revitalized area (City of Houston 2017a).

⁴ The southernmost portion of Independence Heights (between the HB&T Railroad and I-610) is within Segment 2 of the project area; however, for this CIA analysis, the Independence Heights super neighborhood is included as part of the Segment 1 project area.



Current Demographics of the Super Neighborhood:

The demographic composition of the Greater Greenspoint super neighborhood is predominantly Hispanic (60.7 percent) and Non-Hispanic Black (32.0 percent) as shown in Figure 5-3 (U.S. Census Bureau 2010).

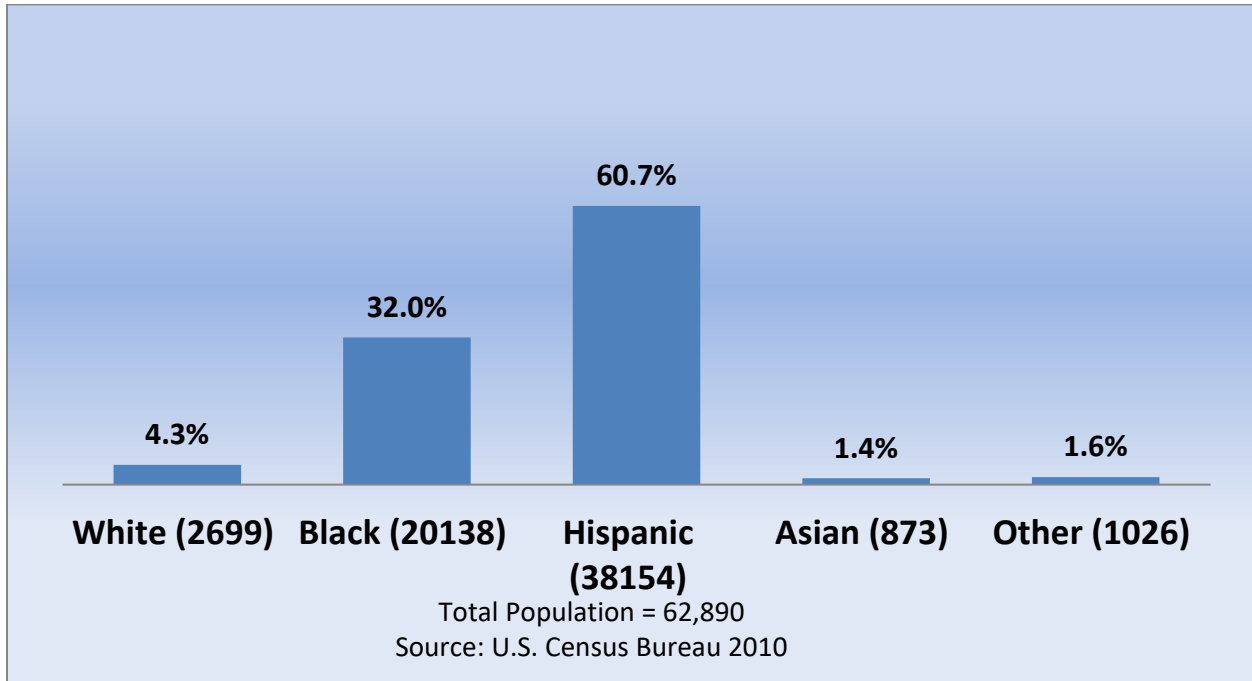


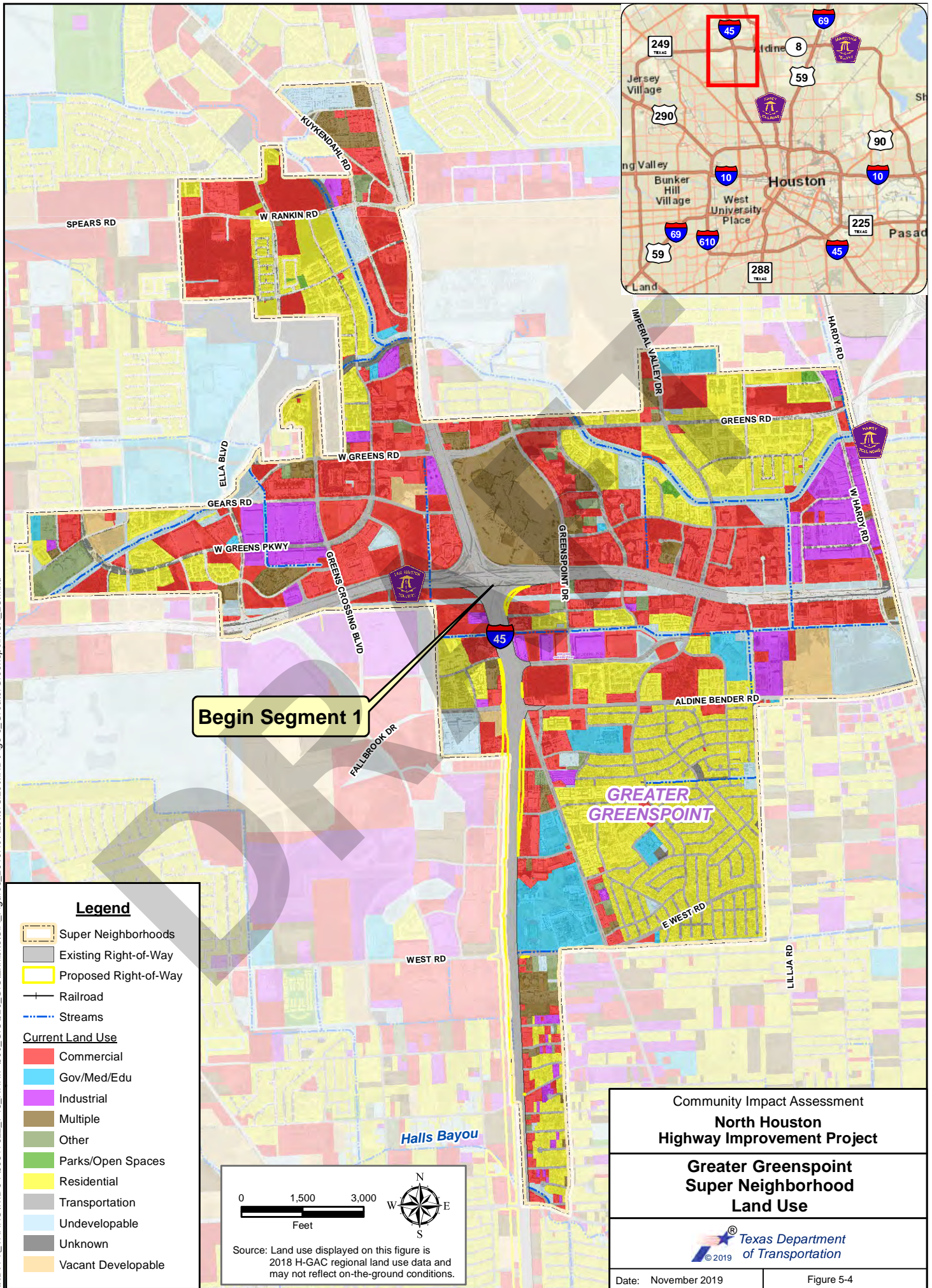
Figure 5-3: Greater Greenspoint Super Neighborhood Percent Population by Race

Land Use and Community Facilities:

The general land uses in the Greenspoint super neighborhood are shown in Figure 5-4.

The area around the I-45/Beltway 8 interchange consists mostly of commercial development, including the Greenspoint Mall, and office space. Industrial development and business parks are located southwest of the I-45/Beltway 8 interchange. Aldine Senior High School, Aldine Ninth Grade School, Stovall Middle School, Bussey Elementary School, and the Aldine Branch Library are located on the east side of I-45 between Aldine Bender Road and West Road.

Residential communities are primarily southeast of the I-45/Beltway 8 interchange, east of the Aldine ISD schools, and on the east side of I-45 between Northville Street and West Mount Houston Road. Several elementary schools and places of worship are located in the residential areas of the Greater Greenspoint super neighborhood. There is a community center at Tom Wussow Park, which is located at 500 Greens Road, adjacent to and north of Greens Bayou.



1 *Future Vision and Goals:*

2 The Greater Greenspoint Super Neighborhood Council is inactive, but the area is partially
3 represented by the North Houston District, formerly the Greater Greenspoint Management
4 District. The Greater Greenspoint Management District was created in 1991 by the Texas
5 Legislature to assist in the provision of community services and to voice the district's needs
6 and vision for growth. The District later changed its name to the North Houston District. The
7 vision of the North Houston District is stated as "Greenspoint is a well-planned, high quality
8 community, integrating regional and metropolitan commercial development with a stable,
9 desirable residential neighborhood." The mission of the North Houston District is to "attract
10 the best in commercial and residential life to our appealing, safe, accessible and green activity
11 center." This work is guided by the Service, Improvement and Assessment Plan, which outlines
12 the focus of the projects and services it provides (North Houston District 2019).

13 The North Houston District/Greenspoint Livable Centers Planning Study, which was completed
14 in 2020, includes a northern portion of the Greater Greenspoint super neighborhood. The
15 purpose of this study is to provide a vision for Greenspoint that develop projects that will make
16 it a better place to live, to do business, and to make it a healthy center for surrounding
17 neighborhoods. The study identified context-sensitive standards that support multi-modal
18 access and connectivity, a mixture of land uses, a variety of housing options, and a sense of
19 place.

20 *Effects on Community Cohesion*

21 There are several businesses and community facilities (28) that would be potentially displaced
22 including restaurants, hotels, automobile related commercial, and other assorted retail shops.
23 Other displacements include a CenterPoint line and pipeline crossing. One community
24 facility/amenity would be displaced - Planned Parenthood (9919 North Freeway).

25 The Planned Parenthood Northville Health Center provides healthcare and education to both
26 insured and non-insured patients. This location offers general health care for men and
27 women, HIV and STD screenings, birth control, abortion referrals, and pregnancy testing and
28 services. Some of these services are available on a sliding-scale fee basis for those that meet
29 income qualifications. It is not known if the Northwest Health Center would relocate in the
30 Greater Greenspoint area. Planned Parenthood Northwest Health Center is approximately
31 11 miles southwest and Planned Parenthood Spring Health Center is approximately 13 miles
32 north of the Northville location. The Northwest Health Center is accessible from the
33 Greenspoint area by bus. The Spring Health Center is not accessible by bus. It may potentially
34 be inconvenient for patients of this clinic, particularly those with lower incomes, to travel to
35 these two Planned Parenthood facilities, but there would likely not be a negative impact to
36 cohesion in the Greenspoint neighborhood due to the displacement of this facility.

37 Schools at 11101 Airline Drive and Ninth Grade School at 10650 North Freeway are located
38 on the east side of I-45, adjacent to each other and linked by a baseball field. The Preferred
39 Alternative would not displace or affect access to the schools. The proposed project would

1 shift the roadway mainlanes and northbound frontage road farther from the Ninth Grade
2 School, and an improved sidewalk and vegetated area would be located along the frontage
3 road.

4 In May 2019, TxDOT met with representatives of Houston Independent School District (HISD)
5 and Aldine ISD. TxDOT discussed the proposed project and potential positive and negative
6 impacts to schools within 500 feet of the proposed project. During these meetings, TxDOT
7 offered to meet with additional school representatives to discuss concerns and issues. A
8 follow up meeting with school representatives from Jefferson Elementary School was
9 conducted on June 6, 2019 to discuss their issues and concerns as well as potential
10 mitigation measures. TxDOT is continuing to coordinate with Aldine ISD and HISD.

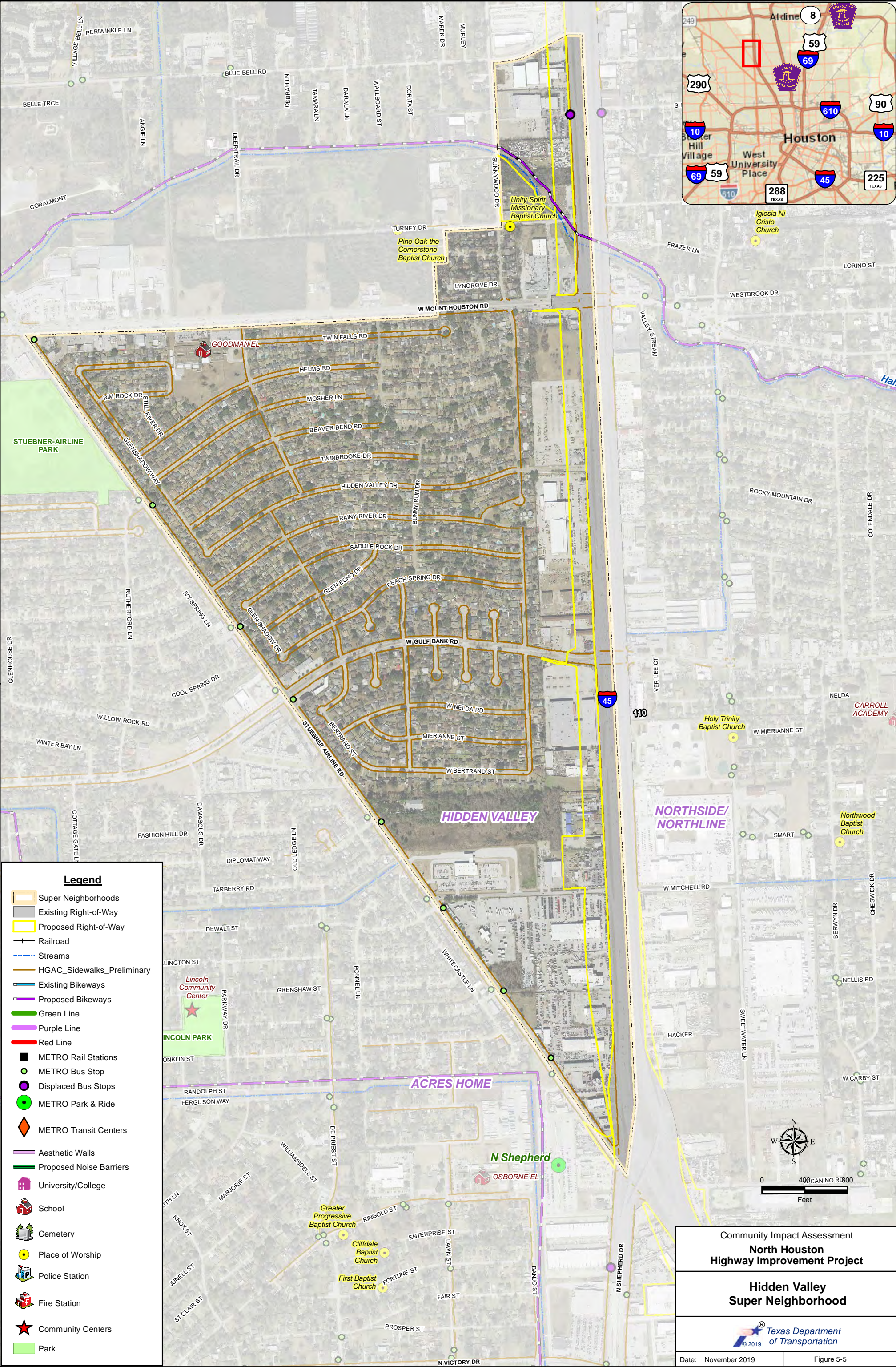
11 The proposed right-of-way of the Preferred Alternative would not create a new barrier that
12 would divide Greater Greenspoint or isolate this super neighborhood from adjacent
13 communities. Additionally, the nature of the displacements would not cause a loss of services
14 or loss of gathering place that is essential to the neighborhood. The proposed project would
15 not affect the community center at Tom Wussow Park. Therefore, it is concluded that the
16 community cohesion in Greater Greenspoint would not be negatively affected. See
17 Section 5.1.2 for a discussion of residential relocation assistance.

18 *5.2.1.2 Hidden Valley*

19 Hidden Valley super neighborhood is located west of I-45, in a triangular area surrounded by
20 I-45 to the east, Veterans Memorial Drive to the west, and West Mount Houston Road to the
21 north. See Figure 5-5 for the location and boundaries of the Hidden Valley super
22 neighborhood.

23 *History:*

24 Hidden Valley is associated with the 1959 Houston Housing Forum, which determined the
25 “ideal home for Houston.” At least one “ideal” home example was constructed in Hidden
26 Valley, and the subdivision helped set local midcentury architectural trends. The subdivision
27 was developed on previously undeveloped land between 1956 and 1979 and was annexed
28 by the City of Houston in 1969. Hidden Valley was developed in line with national trends
29 toward suburbanization and represents a typical midcentury suburban residential
30 development along a major transportation corridor. It is characterized by tract homes
31 separated from the freeway edge by a row of large auto dealerships.



Current Demographics of the Super Neighborhood:

The demographic composition of Hidden Valley is mostly Hispanic (75.0 percent), Non-Hispanic White (8.9 percent), and Non-Hispanic Black (9.4 percent) as shown in Figure 5-6 (U.S. Census Bureau 2010).

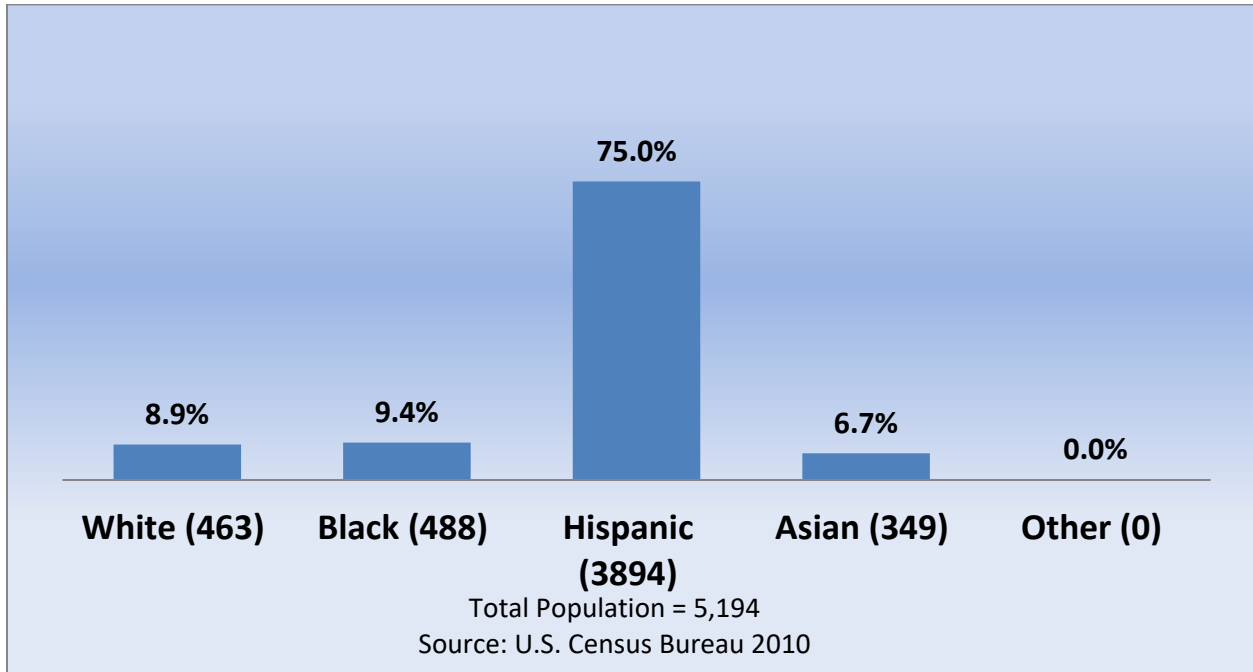


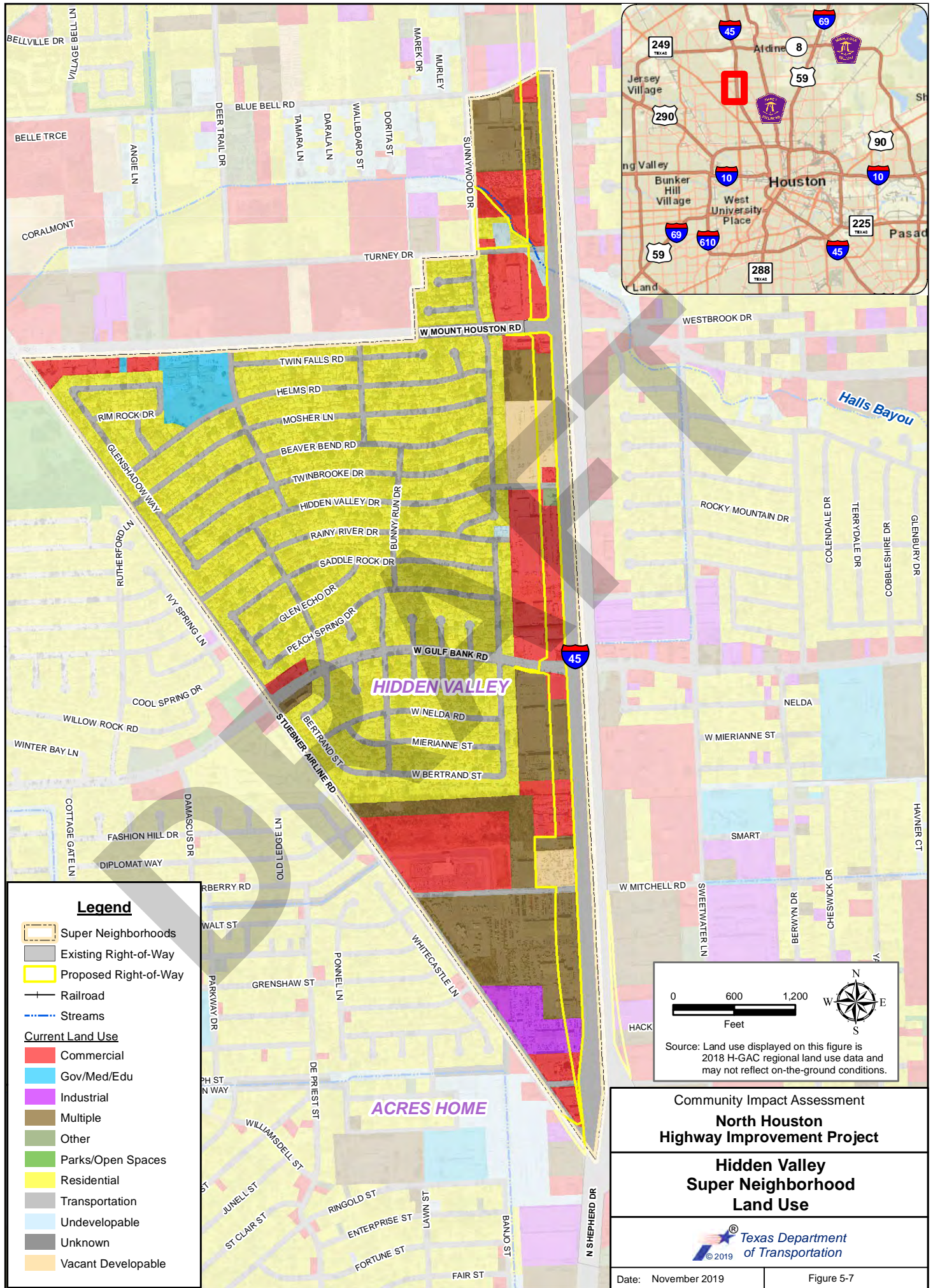
Figure 5-6: Hidden Valley Super Neighborhood Percent Population by Race

Land Use and Community Facilities:

The general land use and location of community facilities in the Hidden Valley neighborhood are shown in Figure 5-7. Hidden Valley consists primarily of single-family residential development with commercial development and auto dealerships along the I-45 frontage road. Goodman Elementary School is located on the northwest corner of the super neighborhood. No community centers were identified within the super neighborhood.

Future Vision and Goals:

The Hidden Valley Super Neighborhood Council is inactive and there does not appear to be any formalized neighborhood planning groups.



Effects on Community Cohesion

There are 31 anticipated business displacements along the project corridor in Hidden Valley. These businesses primarily consist of auto related business, light industrial, motels, fast food, and gas stations. None of these businesses provide essential services to the community.

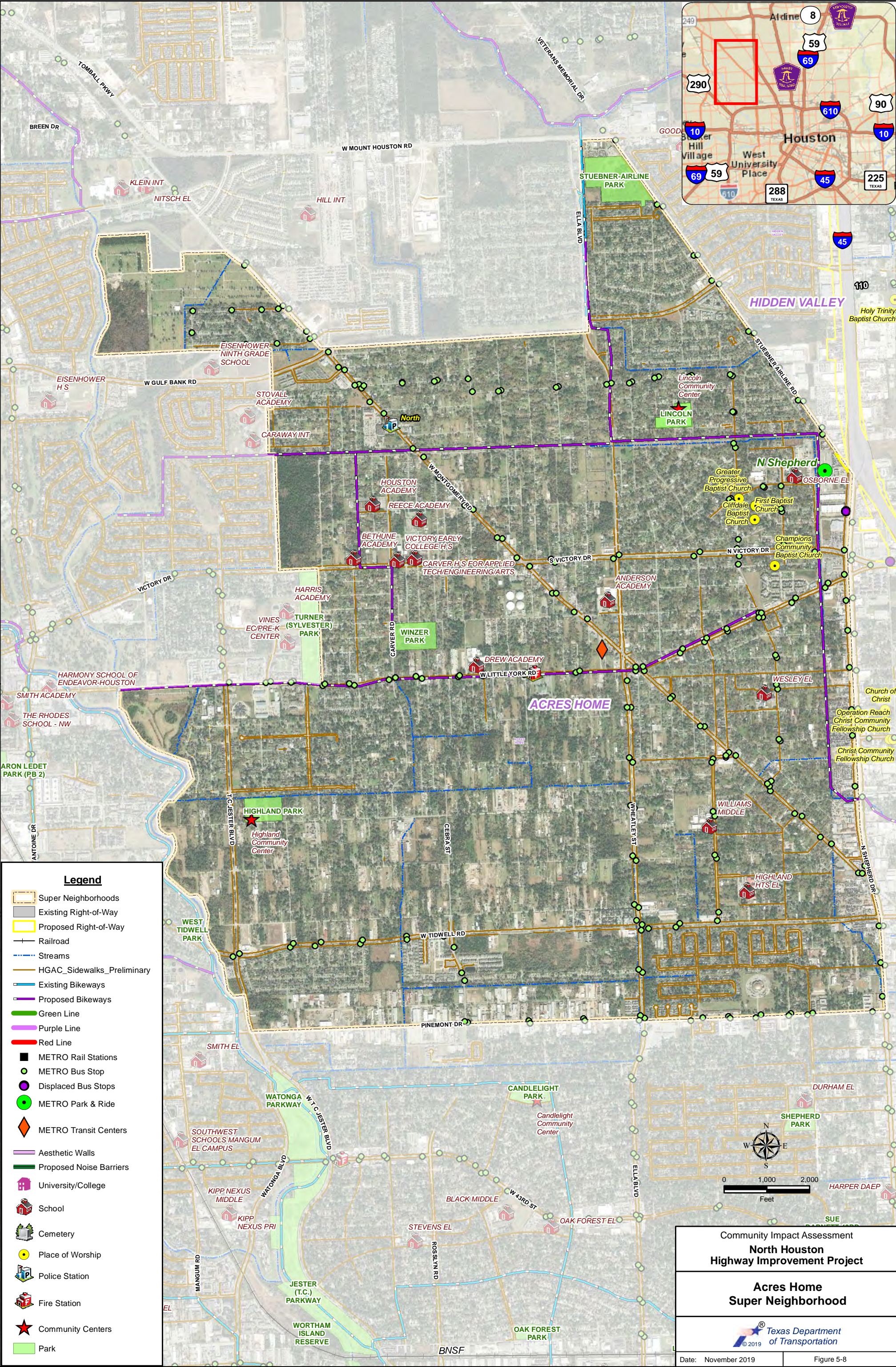
The displacement of businesses may have some indirect effects on residents. The removal of the buildings and expansion of the highway may increase noise levels and increase the visual impact to the adjacent residents. The proposed right-of-way of the Preferred Alternative would not create a new barrier that would divide Hidden Valley or isolate this super neighborhood from adjacent communities. Additionally, the nature of the displacements would not cause a loss of services or loss of gathering place that is essential to the neighborhood. Therefore, it is concluded that the community cohesion in Hidden Valley would not be negatively affected and no specific mitigation is proposed for impacts to community cohesion.

5.2.1.3 Acres Home

Acres Home super neighborhood is located west of I-45. Its boundaries are generally West Gulf Bank Road to the north, Pinemont Drive to the south, North Shepherd Drive to the east (west of I-45), and White Oak Bayou to the west. See Figure 5-8 for the location and boundaries of the Acres Home super neighborhood.

History:

Acres Home was first developing during World War I, when landowners began selling acres that were large enough for homesteads to African-Americans. Development was slow until the late 1930s, when builders began constructing subdivisions. Development continued throughout the middle of the twentieth century. Subdivisions included Highland Heights and Highland Heights Annex, Highland Acres, Acres Acreage, Harvis Heights, Carver Addition, and Lincoln City. Because the community was outside of city limits, Acres Home residents supplied their own septic and water services. Acres Home was the largest unincorporated African- American community in the South until the City of Houston began annexation in 1967 (Acres Home Citizen Council Coalition 1999).



Current Demographics of the Super Neighborhood:

The demographic composition of the super neighborhood is mostly Non-Hispanic Black (60.9 percent) and Hispanic (26.7 percent) as shown in Figure 5-9 (U.S. Census Bureau 2010).

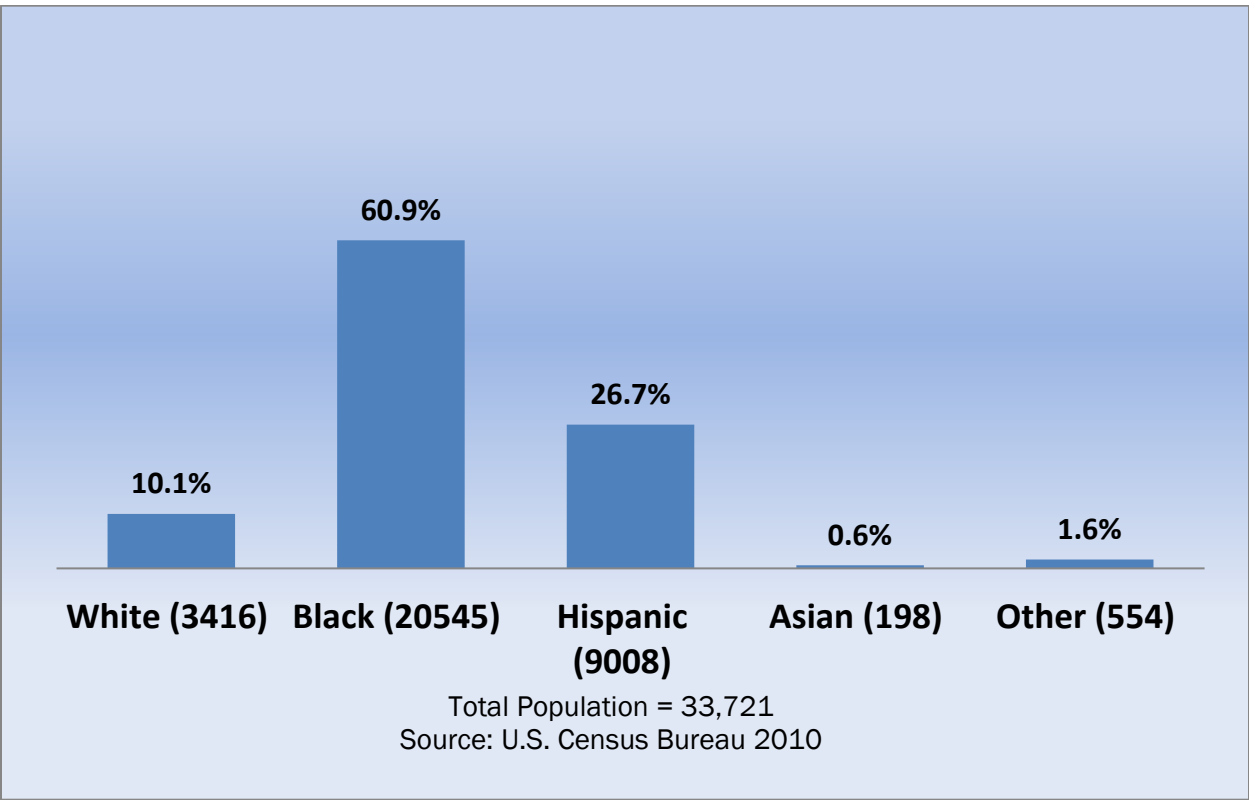
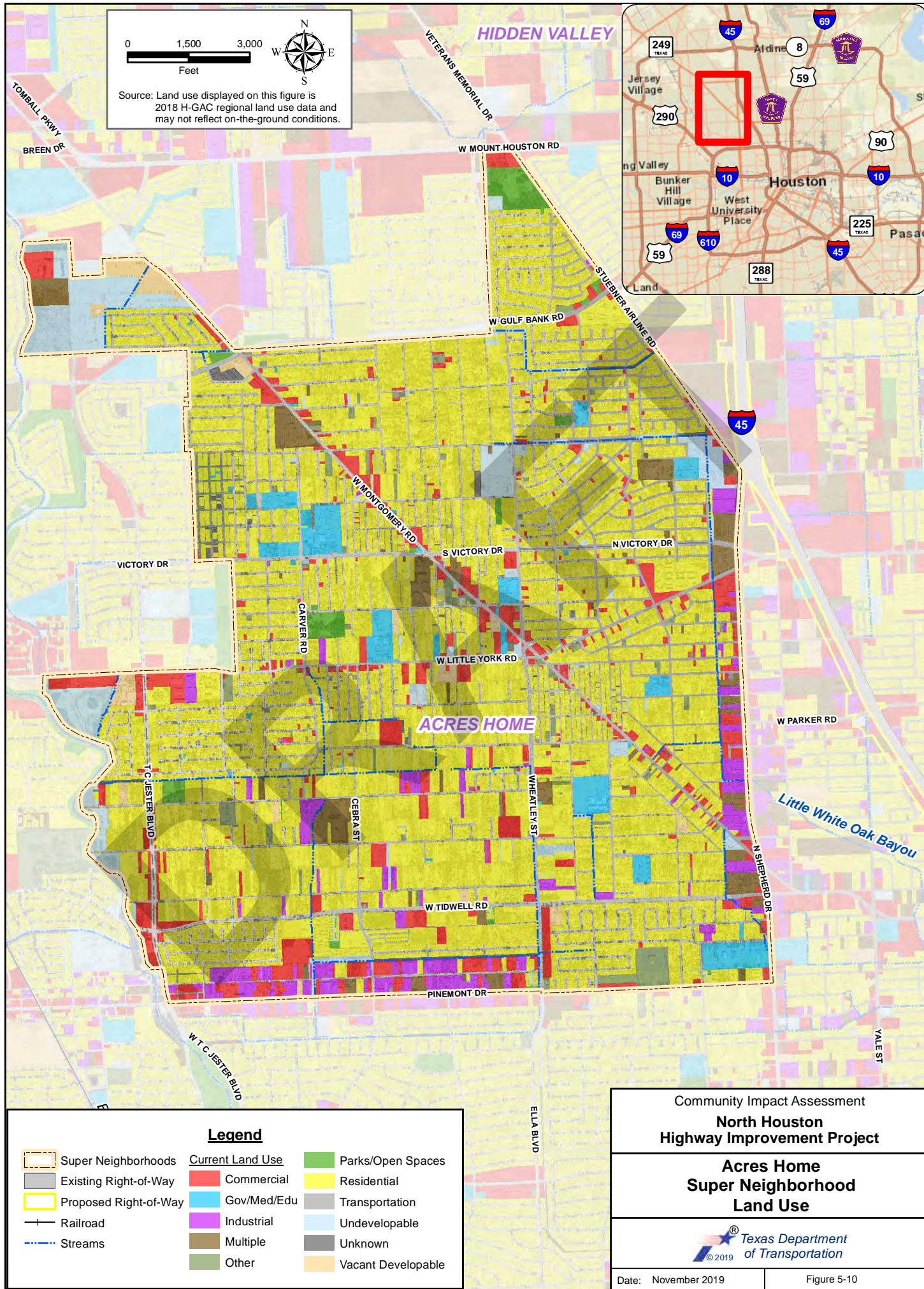


Figure 5-9: Acres Home Super Neighborhood Percent Population by Race

Land Use and Community Facilities:

The general land use and location of community facilities in the Acres Home neighborhood are shown in Figure 5-10.

The neighborhood is mostly residential, with some industrial and commercial development along North Shepherd Drive and Pinemont Drive. Several schools and places of worship are located within the residential areas of the super neighborhood. Other community facilities include the Highland Community Center at 3316 De Soto Street, Lincoln Park Community Center at 979 Grenshaw Street, and the Shepard-Acres Homes Neighborhood Library at 8501 W Montgomery Road.



1 *Future Vision and Goals:*

2 Residents of the Acres Home neighborhood have plans for development in their
3 neighborhood. Stakeholders in the Acres Home super neighborhood have formed a super
4 neighborhood council, which represents the diverse perspectives of residents and
5 organizations in the super neighborhood. The Acres Home Super Neighborhood Council is an
6 umbrella organization that collaborates and involves over 20 civic clubs in the community, as
7 well as the Acres Home Community Development Corporation, the Sisterhood of Faith in
8 Action, and the Acres Home Chamber of Commerce (Acres Home Super Neighborhood 2019).

9 In 2016, residents and property owners in Acres Home organized the Highland Heights Annex
10 Action Committee to plan for the redevelopment that would likely occur in the area due to the
11 proximity to Downtown and availability of large tracts of open space and vacant land. The
12 group seeks to contribute to planning strategies that might include deed restrictions, land
13 trusts and developer impact fees. Discussions also have centered on affordable housing and
14 the possibility of building community stables and riding trails, urban farms, farmer's markets
15 and educational centers (Sarnoff 2016).

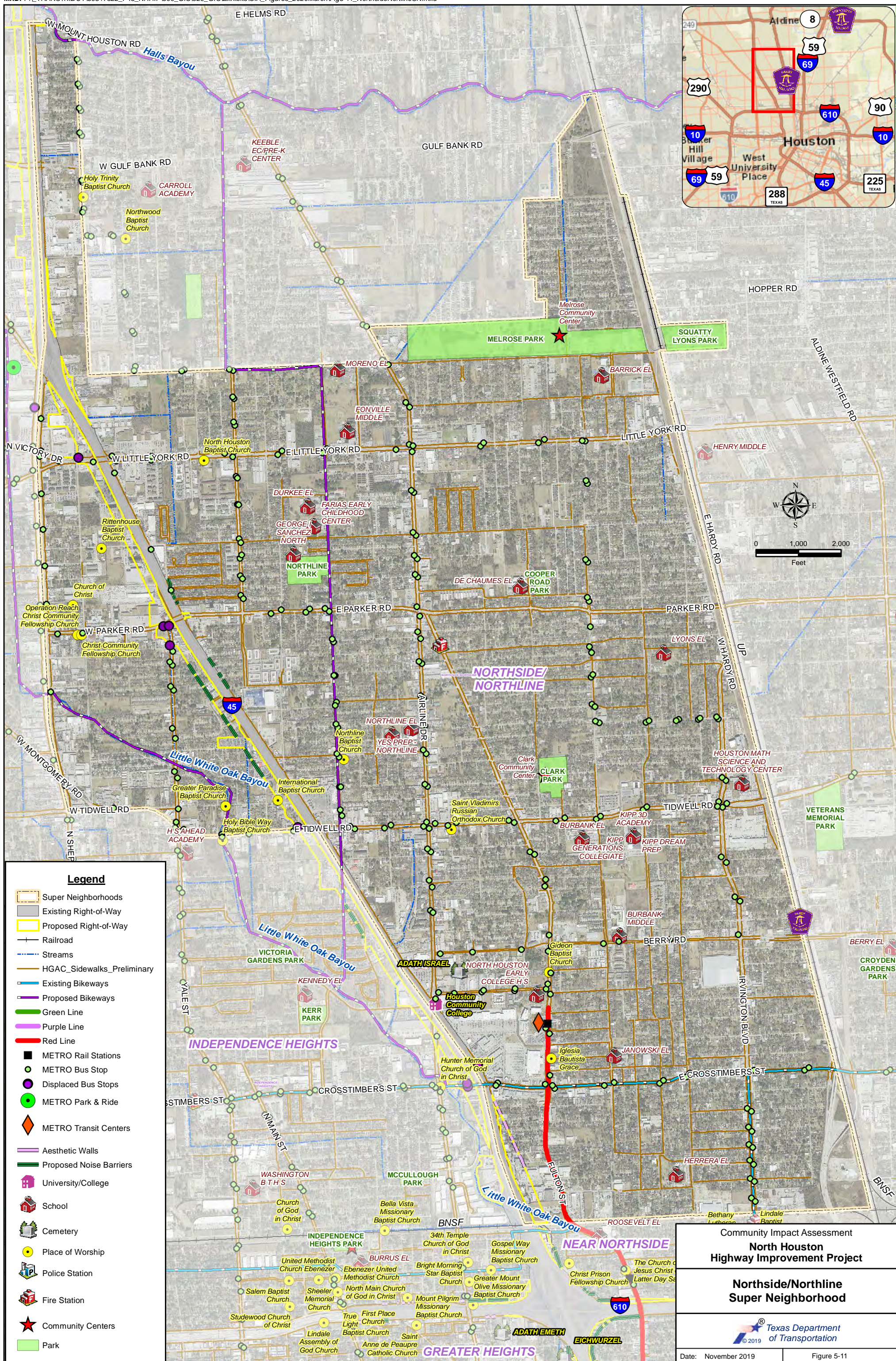
16 *Effects to Community Cohesion*

17 The Preferred Alternative's proposed right-of-way would not displace residences or community
18 facilities in Acres Home and would not affect access to community facilities or local services.
19 One retail business, an auto repair shop, would be displaced.

20 The Preferred Alternative's proposed right-of-way would not create a new barrier that would
21 divide or isolate Acres Home from adjacent communities. The proposed right-of-way would
22 displace one business but would not displace residences or community facilities in Acres
23 Home. It would not affect access to community facilities or local services. It is not anticipated
24 that community cohesion in the Acres Home community would be negatively impacted and no
25 specific mitigation is proposed for impacts to community cohesion.

26 *5.2.1.4 Northside/Northline*

27 The Northside/Northline super neighborhood is located east of I-45 between West Mount
28 Houston Road and the HB&T railroad tracks. The eastern boundary of the super neighborhood
29 extends to the Hardy Toll Road. A portion of the Northside/Northline super neighborhood
30 extends west of I-45 to North Shepherd Drive between the Veterans Memorial Drive/North
31 Shepherd Drive intersection and East Tidwell Road. See Figure 5-11 for the location and
32 boundaries of the Northside/Northline super neighborhood.



History:

To the northeast of this super neighborhood, the construction and opening of the Intercontinental Airport in 1969 provided impetus for residential construction and commercial land uses between Downtown and the airport (McGuire 2019). Two major roadways, I-45 and the Hardy Toll Road, provide access to the area. The North Freeway (I-45) initially spurred development of numerous retail centers, light industrial and distribution facilities in close proximity to the freeway. Given the amount of related development that occurred, construction of the Hardy Toll Road in 1988 did not have the same magnitude of effect (City of Houston 2019d).

Current Demographics of the Super Neighborhood:

Approximately 82.9 percent of the Northside/Northline super neighborhood is Hispanic and approximately 10.7 percent is Non-Hispanic Black as shown in Figure 5-12 (U.S. Census Bureau 2010).

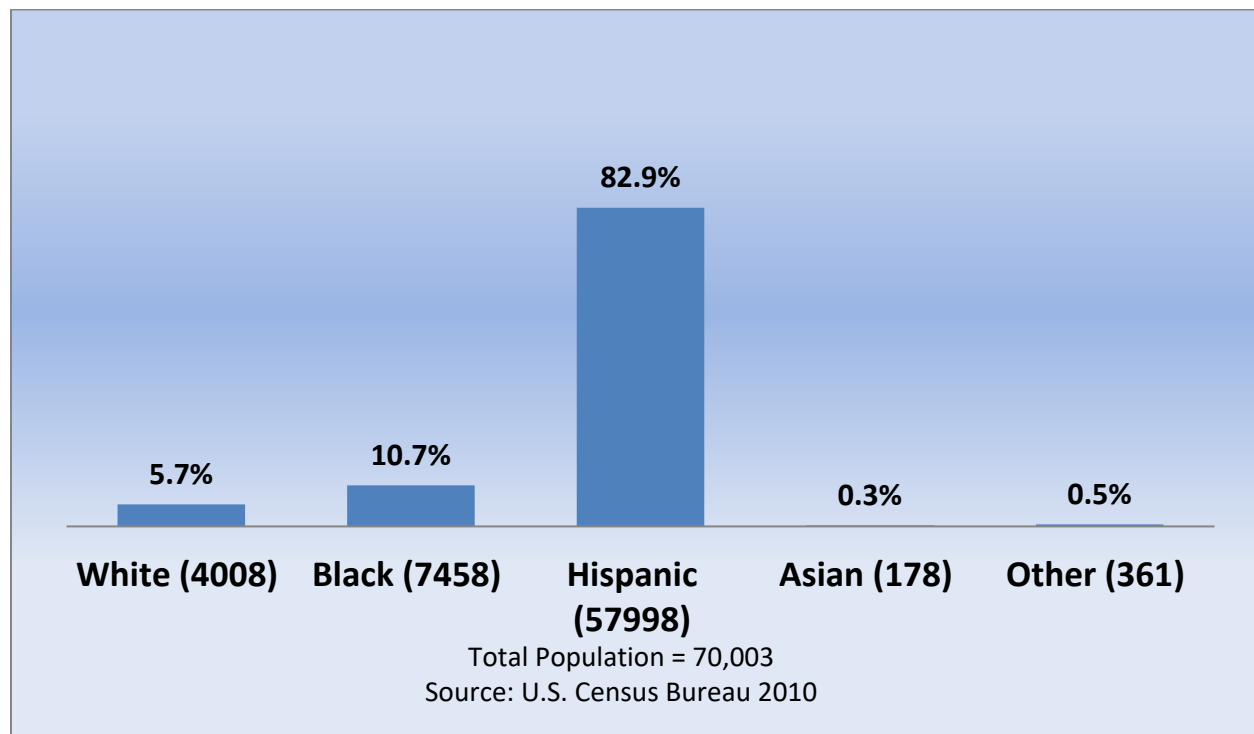


Figure 5-12: Northside/Northline Super Neighborhood Percent Population by Race

Land Use and Community Facilities:

The Northside/Northline super neighborhood is mostly comprised of single-family residential development with a few large apartment complexes. Businesses on the west side of Northside/Northline and along the I-45 frontage road include automobile dealerships, restaurants, retail stores, motels, and storage facilities. Several unoccupied buildings are located along the frontage road. Community centers in the Northside/Northline super neighborhood include the Melrose Park Community Center at 1001 Canino Road and Clark

Community Center at 9718 Clark Road. Several places of worship, schools, and hospital/medical facilities are located throughout the Northside/Northline super neighborhood. A Houston Community College (HCC) campus at 4638 Airline Drive and the Culinary Institute LeNotre (7070 Allensby Street) are also located within the Northside/Northline super neighborhood. Northline Commons Mall is located northeast of the I-45 and Crosstimbers Street intersection. Two senior living facilities, Pecan Grove Manor and Woodland Christian Towers, are located on the east side I-45. The Woodland Christian Towers and Pecan Grove Manor provide housing for low-income elderly persons and persons with disabilities (Christian Church Homes 2015).

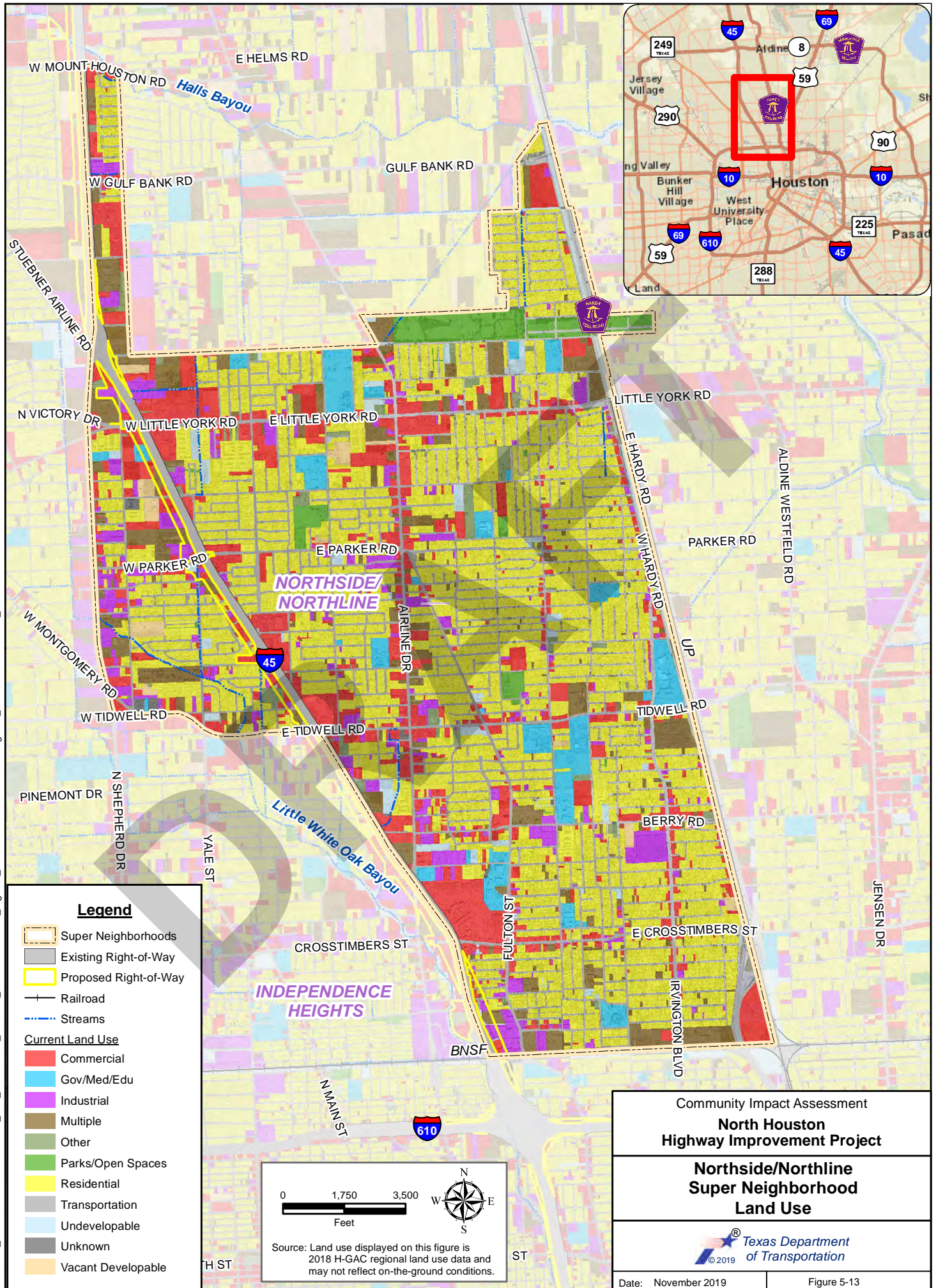
The general land use and location of community facilities in the Northside/Northline super neighborhood are shown in Figure 5-13.

Future Vision and Goals:

A small portion of the southwestern corner of the Northside/Northline super neighborhood was included in the Independence Heights - Northline Livable Centers Planning Study (H-GAC 2012). This study area is defined as Whitney Street and Lysterly Street to the north, I-610 to the south, Fulton Street and I-45 to the east, and Yale Boulevard and North Main Street to the west. The study's main area of focus in the Northside/Northline super neighborhood is the Northline Commons. The study was completed in 2012 and conducted in partnership with the Greater Northside Management District and in cooperation with the Independence Heights Redevelopment Council and Northline Development. It examines the area's needs and presents priority projects to create a better quality of life and improved connectivity for the area. The top projects identified that reflect the community's priorities of where money and energy should be spent include:

- Burgess Hall Redevelopment: Develop Burgess Hall into a community facility; incorporating the footprint and/or materials.
- Floodplain Redevelopment Guidelines: Develop guidelines that determine how and what can be built in the floodplain after vacant structures have been cleared.
- Floodplain Engineering Projects: Identify engineering projects within the floodplain that would reduce or mitigate the risk of flooding.
- Crosstimbers and Main Streets Implementation: Develop key economic corridors and catalyst projects for the study area.
- I-45 Pedestrian Connection: Implement streetscape improvements to improve the safety and aesthetics of this vital pedestrian connection, including paving, landscape and lighting.
- Transit-oriented Development at Northline Transit Center: Strategize development in and near the Northline Transit Center. Encourage further infill development within the neighborhood.

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Other recommendations included:

- Pedestrian Friendly Routes: Implement streetscape improvements for key destinations within the study area, focusing on sidewalks and human comfort.
- Hike and Bike Trails: Install hike and bike trails along Little White Oak Bayou and other open spaces that connect to existing trails near or outside of the study area.
- Continue development and refinement of the on-street network to improve connection to neighborhood services and amenities.
- Gateway and Signage Plan: Identify gateway hierarchy and incorporate local art into the gateways' signage.
- Historic Business Owners: Involve long-term business owners in signage and branding plan.

As of November 2018, the implementation of the study was eight percent complete. For projects that are planned/programmed, \$1.5 million is needed. This area will continue to promote and attract new residential housing and create a Transit Oriented Development with connections to rail and bus (H-GAC 2019a).

In 2017, the Northline community adopted "Our Northline: A Health Equity Plan," a comprehensive action plan organized by Avenue Community Development Corporation. (Avenue CDC) that is designed to improve housing conditions, enhance educational opportunities, grow the economy and provide a safe and healthy environment for working families (Avenue CDC 2017).

Effects to Community Cohesion

Based on the current design of the proposed project, there would be residential, multi-family, business, medical office, and community facility displacements in the Northside/Northline neighborhood.

Northside/Northline has approximately 18,933 housing units (City of Houston 2017a), and residential displacements attributed to the proposed project would account for less than one percent of the total housing units in the Northside/Northline super neighborhood. In 2015, the vacancy rate for housing units in Northside/Northline was approximately nine percent. This was slightly lower than the estimated 12 percent vacancy rate for housing units in the city of Houston (City of Houston 2017a).

Between 2000 and 2015, the median housing value in Northside/Northline increased approximately 73 percent, while the median income increased approximately 21 percent (City of Houston 2017a).

A total of 34 residential displacements would occur on both sides of the I-45 with 12 on the eastside and 22 on the westside. Six multi-family units from the east side of I-45 at the Mission Realty Apartments (4212 North Freeway) would be displaced.

1 Centro Cristiano Church (5621 North Freeway) along with its school, Alpha and Omega
2 Academy and its daycare center at the same location would all be displaced. Centro Cristiano
3 serves a Spanish speaking population. According to the school's principal, Alpha and Omega
4 Academy has an enrollment of approximately 40 students from Pre-K through 12th grade,
5 most of whom speak Spanish. The church also runs a daycare for children 6 months old to
6 Pre-K age (approximately 4 years old). Information on the school and daycare are provided in
7 English as opposed to the church, whose website and social media presence are exclusively
8 in Spanish. Additional information provided by the Alpha and Omega Academy is included in
9 Appendix A, Table A-1.

10 According to the principal of Alpha and Omega Academy, students come from all over Houston
11 so the relocation of the school could result in increased travel distance for some families or a
12 decrease for others depending on the location of their homes. In discussions with the NHHIP
13 Study Team, representatives of the Alpha and Omega Christian Academy originally stated that
14 they would like to relocate the school in the same area. The church/school owns the adjacent
15 vacant property and could rebuild on this property. However, in more recent conversations,
16 they stated they would like to find a new property farther north where they might have more
17 space to expand. TxDOT is in the process of advance acquisition for this property. Advance
18 acquisition would allow the school to rebuild a new school prior to displacement and without
19 disruption to classes. Centro Cristiano Church is affiliated and would relocate along with Alpha
20 and Omega Academy.

21 Since it does not appear the students and congregation of this church and school reside
22 primarily in Northside/Northline area, there would likely not be a negative impact to cohesion
23 in the neighborhood due to the displacement of this facility. It is assumed that the school and
24 church would coordinate with their attendees to determine a new location suitable to the
25 communities served by these community facilities. Additionally, there appear to be multiple
26 other Spanish speaking Christian churches in the area if a member of the congregation chose
27 not to follow the church to the new location. Additional information provided by the Centro
28 Cristiano is included in Appendix A, Table A-1.

29 Faith Tabernacle Church at 45 Neyland Street is a predominantly African American
30 non-denominational Christian church with approximately 100 to 120 members. Members of
31 the church live in Acres Home (in the project study area) and in north Houston near the US
32 290/Beltway 8 interchange. The church was originally located in Acres Home and has been
33 in its current location in Northside/Northline for 20 years. The Church engages in community
34 outreach activities and is in the process of establishing a separate nonprofit entity to support
35 these activities. These outreach efforts include an annual Halloween event, Vacation Bible
36 School, joint events with the Houston Public Library, and provision of financial assistance to
37 help with purchase of food, clothing, and other necessities for low-income families.

38 Faith Tabernacle Church would like to renovate their current facility but does not want to invest
39 if their building would be displaced by the proposed project. Representatives of the church
40 would like to relocate in the same neighborhood and would like to find a property that is visible

1 from the highway with frontage road access. They require assistance in locating a new
2 property and with moving a large storage unit used for outreach supplies.

3 Currently, many of the church's congregation live in Acres Home and other neighborhoods in
4 north Houston and travel to Northside/Northline to attend Faith Tabernacle. If the church were
5 to move to a different neighborhood, it is likely the congregation would follow, according to
6 the pastor. However, the church does currently engage in community outreach programs in
7 the neighborhood where they have been for 20 years. TxDOT will help the church relocate in
8 the same neighborhood, if desired by church leaders, and assist with minimizing impacts to
9 community cohesion, but it is possible that some outreach programs would be discontinued
10 if the church moves out of the neighborhood. TxDOT was unable to avoid impacting this
11 property due to the right-of-way required to accommodate the I-45 mainlanes and frontage
12 roads, and the direct connectors to the I-610 interchange. Also, the roadway alignment could
13 not be shifted to the west because of Little White Oak Bayou and the associated floodplain.

14 The Iglesia Evangelica Vida is located in a two-story office building at 4000 North Freeway.
15 Based on an internet search, no information on this church could be located. Numerous
16 attempts have been made to communicate with the staff, including bilingual letters and two
17 site visits, but TxDOT has been unable to reach anyone at this church. Since TxDOT has been
18 unable to contact Iglesia Evangelica Vida and it is not known if they are operational, the
19 impacts of its displacement are unknown. Efforts will continue to be made to communicate
20 with this church to ensure any potential impacts to the community due to their displacement
21 are mitigated.

22 Culinary Institute LeNotre at 7070 Allensby Street provides both professional culinary training
23 and recreational cooking and baking classes. It offers diplomas and associate degrees in
24 culinary arts and baking in the afternoon and evening classes. The school provides tuition
25 assistance if necessary. Their website is available in both English and Spanish.

26 The Culinary Institute LeNotre has stated it is concerned about finding a property along the
27 highway frontage road because it wants to maintain its current level of exposure and visibility.
28 TxDOT is proceeding with advanced acquisition of the Culinary Institute LeNotre. This means
29 that classes would continue at the current location until the new building has been acquired
30 and prepared for classes. This would ensure that there would be no interruption of scheduled
31 classes for students. It is possible that the Institute would need to relocate outside of the
32 Northside/Northline neighborhood, but the school appears to serve students from across
33 Houston.

34 Other schools in the Houston area that offer culinary programs include The Art Institute of
35 Houston (4140 Southwest Freeway) located approximately 12 miles southwest of the Culinary
36 Institute LeNotre and Houston Community College (3100 Main Street) located approximately
37 seven miles south of the Culinary Institute LeNotre. However, the Culinary Institute LeNotre is
38 the only school in Houston that focuses strictly on culinary arts. Since it does not appear that

1 the students reside primarily in Northside/Northline there would not likely be a negative
2 impact to cohesion in the neighborhood due to the displacement of this facility.

3 Casa Quetzal at 7407 North Freeway is part of the Southwest Key Foundation which is a
4 national, nonprofit organization whose purpose is to “create opportunities and improve the
5 quality of life for thousands of youth and families each day by providing safe shelter,
6 alternatives to incarceration, career development and quality education.” Specifically, Casa
7 Quetzal provides shelter for refugee children as they wait to be reunited with their families.
8 The building that Casa Quetzal currently leases would not be directly affected by the project;
9 however, a substantial amount of its parking would be affected by the proposed project.

10 At the time of property acquisition, if Casa Quetzal still occupies the building, they would be
11 informed of the amount of parking that would be left for the building. It would be up to Casa
12 Quetzal, or whoever occupies the building at the time, to determine if this is sufficient to meet
13 their needs so they can continue to operate there. If it is not deemed sufficient, then they may
14 choose to leave and the normal relocation process would begin. Continuing efforts are being
15 made to reduce the amount of additional property needed for the project so the final amount
16 of land needed in this location is unknown at this time.

17 Although Casa Quetzal is a unique and sensitive facility, displacement (if it were to be required
18 due to parking impacts) is not likely to affect the community cohesion of the
19 Northside/Northline neighborhood. The residents of Casa Quetzal are refugee children in the
20 process of being reunited with their families. Their care and education are all provided at the
21 facility and relocation would not impact their regular activities such as attending a
22 neighborhood school. Additionally, this facility is not open to the public and residents of the
23 neighborhood would not be affected if it were relocated outside Northside/Northline.

24 The proposed project right-of-way would displace Texas Health and Human Services, which
25 provides health and social services for seniors, disabled persons, children, and underserved
26 individuals and families. The agency is a tenant in a warehouse office building. Because
27 clients can access and register for services online and by phone, clients would continue to be
28 served the agency. Homeless individuals or other without access to computer or phone could
29 visit local libraries to use computers to apply for services. The agency has indicated it is likely
30 the office would not reestablish if it is displaced because there is another HHS office
31 approximately 10 miles away and they are moving to serving more clients online and by phone.
32 Currently, a METRO bus route has a stop approximately 0.3 mile from the HHS office at 220
33 Meadowfern Drive.

34 Clinics and Medical Offices; Office and Commercial Buildings with Multiple Businesses

35 Although clinics and medical offices are smaller than major hospitals, and can be considered
36 businesses, they also may provide services that are important for community cohesion.
37 Several of these facilities are in the project area.

- 38 ▪ The Kindred Healthcare building at 7333 North Freeway leases office space to
39 various medical service providers but is also the location for Kindred administrative

1 offices. According to an internet search, the Houston Pediatric Clinic appears to
2 operate from this building, but no other details could be found on specific practices
3 in the building. There are several advertisements on and around the building stating
4 there is space available to lease. Based on an internet search there are at least three
5 other pediatrician offices within five miles of Kindred Healthcare if patients of
6 Houston Pediatric Clinic need to find an alternate doctor. There may be some local
7 residents who are patients of doctors in this building but there would likely not be a
8 negative impact to community cohesion in the Northside/Northline neighborhood
9 due to the displacement of this building.

- 10 ■ There is at least one urologist currently operating out of the Medical Center at 515 W
11 Little York. This is a standalone building housing a limited number of practitioners.
12 There are at least five other urologists within 6 miles of the potentially displaced
13 urologist office at 515 W Little York. While it may potentially be inconvenient for
14 patients of this doctor, but there would likely not be a negative impact to cohesion in
15 the Northside/Northline neighborhood due to the displacement of this building.
- 16 ■ The Medical building located at 7007 North Freeway is a multilevel building with 12
17 different practices advertised. This medical office has a birth center, MRI facility, and
18 children's dentist which all have customers that use Medicaid or Children's Health
19 Insurance Program (CHIP). Medicaid is a jointly funded state and federal government
20 program that provides health coverage to low-income adults, children, pregnant
21 women, and people with disabilities. CHIP provides low-cost health coverage to
22 children in families that do not qualify for Medicaid. In some states, CHIP covers
23 pregnant women. Each state offers CHIP coverage, and works closely with its state
24 Medicaid program. All the services provided in this building can also be found at
25 alternate locations within 5-miles, except the birth center. The North Houston Birth
26 Center offers services to women throughout the city of the Houston. Several other
27 clinics, healthcare centers, and urgent care facilities are located on the west side of
28 I-45; however, the North Houston Birth Center is one of the only birth centers in
29 Houston that is not part of a hospital and that accepts Medicaid. The North Houston
30 Birth Center currently leases office space in the building. In May 2020 the owner of
31 the North Houston Birth Center secured a lease at a different office building
32 approximately three miles from the current location, and plans to move to the new
33 location in the Independence Heights super neighborhood in November 2020.
34 Unicare MRI & Diagnostic Center is also located in this building and provides services
35 medical imaging services primarily to patients who use Medicaid. The business owner
36 stated that many of his patients use the local bus stop to get his business.
37 Businesses that perform medical procedures would be required to amend medical
38 licensing to perform medical procedures in a new location and TxDOT will pay for
39 relicensing fees. There may be some local residents who are patients of doctors in
40 this building but there would likely not be a negative impact to community cohesion
41 in the Northside/Northline neighborhood due to the displacement of this building.

- 1 ▪ Convenient Urgent Care and MRI is a walk-in urgent care clinic at 411 West Parker
2 Road. This clinic provides basic medical care such as treating colds, flus, ear
3 infections, and allergies as well as providing care for broken bones, animal/insect
4 bites, burns, and sprains. This clinic also provides sexually transmitted diseases
5 testing. It provides service through the evening hours and on weekends. Based on an
6 internet search there are at least three alternate urgent care and MRI locations
7 within a five-mile radius of the Convenient Urgent Care building. There may be some
8 residents who use this urgent care clinic and may need to travel a little farther to find
9 a similar service but there would likely not be a negative impact to community
10 cohesion in the Northside/Northline neighborhood due to the displacement of this
11 building.
- 12 ▪ One office building located at 4625 North Freeway is occupied by AVANCE Training
13 Centers. There are no billboards or signs to indicate who occupies the building;
14 although an internet search identified the training center. AVANCE Training Center is
15 a nonprofit organization that assists low-income and at-risk families with early
16 childhood, healthy marriage, and workforce education. The training center assists
17 clients with resume building, preparing for interviews, and job placement among
18 other things. It is unknown what other entities occupy the building. AVANCE does
19 have other services but this is its only training center in Houston. It is likely that this
20 center serves clients throughout the city of Houston. There may be some residents
21 who use this facility but there would likely not be a negative impact to community
22 cohesion in the Northside/Northline neighborhood due to the displacement of this
23 building.
- 24 ▪ A commercial center at 432 West Parker Road appears to house two trade schools.
25 There is sign for a cosmetology school on the building and an internet search listed
26 the Monterrey International School of Beauty at this address; however, their website
27 is inactive and there was no answer at the listed phone number. There is also a sign
28 for the African Braiding Hair Braiding School. Based on an internet search and
29 several unanswered phone calls to the Braiding School it is unclear if the school is
30 still operational.

31 The Northside/Northline super neighborhood is part of the Greater Northside Management
32 District. TxDOT met with the Greater Northside Management District to present the proposed
33 project components and solicit input on potential impacts.

34 The Preferred Alternative's proposed right-of-way would not create a new barrier that would
35 divide Northside/Northline or isolate this super neighborhood from adjacent communities.
36 The proposed right-of-way of the Preferred Alternative would displace single-family residences
37 and multi-family units in the Northside/Northline super neighborhood. Some of the potentially
38 displaced single-family residences that front I-45 are used for commercial businesses. A
39 number of medical offices would also be displaced.

Facilities that assist low-income families, individuals struggling with addiction and children who are refugees from other countries are among those establishments that would need enhanced relocation assistance and advanced notice to plan for relocation. While these services are provided to building owners, TxDOT will ensure that tenant needs are met when essential services would be affected by the proposed project. In some situations, a replacement property or service may be easily located nearby, or within the same community. In some cases, a replacement service or facility may be farther away. Given these factors, there is potential for some negative impacts to community cohesion in the Northside/Northline super neighborhood due to a loss of some services. Some community outreach services may also be lost if Faith Tabernacle Church moves out of the neighborhood, although most services can be found elsewhere in the neighborhood or vicinity. See Section 5.1.2 and Section 5.9 Environmental Justice for proposed measures to be taken by TxDOT to avoid, minimize, or mitigate adverse impacts to communities.

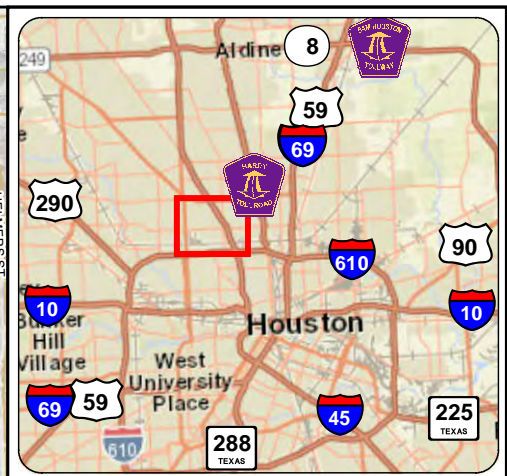
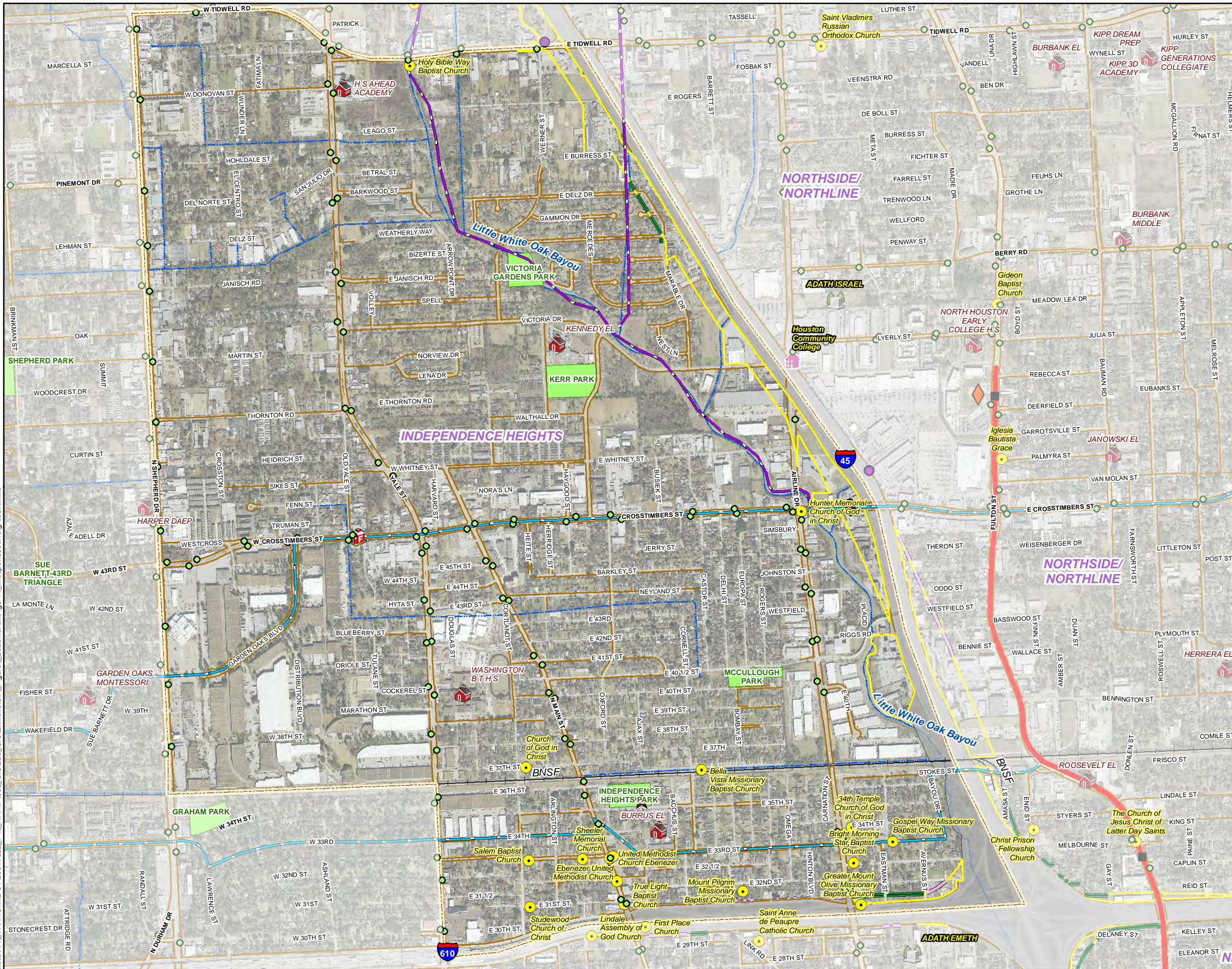
5.2.1.5 Independence Heights

The Independence Heights super neighborhood is located north of the Greater Heights super neighborhood and west of the Northside/Northline super neighborhood. Its boundaries include I-45 to the east, Tidwell Road to the north, North Shepherd Drive to the railroad tracks eastward, Yale Street to the west, and I-610 to the south. The area consists primarily of single-family residences. See Figure 5-14 for the location and boundaries of the Independence Heights super neighborhood.

History:

Development of Independence Heights began in 1908 when banker and land developer Alfred A. Wright, purchased what was agricultural land and began development of subdivisions in the area. Wright and his son established the Wright Land Company in 1910. The Wrights marketed Independence Heights to African Americans at a time when land ownership was otherwise challenging due to segregation. Other subdivisions were developed surrounding the Wright developments. Advertisements for the community described it at that time as being six miles north of Houston. Within a few years of its initial development, Independence Heights became a thriving community, with several churches, businesses, a school and civic and fraternal organizations. In 1915, residents of Independence Heights voted for incorporation, making it the first incorporated city in Texas with all Black officials. In 1920, the census documented the population of Independence Heights at 720. The City of Houston annexed Independence Heights in 1929. Through the mid-twentieth century, the Independence Heights neighborhood continued as a predominantly African American community with a range of businesses, several churches, and elementary and secondary schools serving the area's residents. In the 1950s and 1960s, suburban growth continued northward, with new subdivisions to Crosstimbers Road and beyond. These developments are now included in the City of Houston's Independence Heights super neighborhood, but they do not share strong historical associations with the areas south of 40th Street. Freeway construction in the early 1960s had major impacts on Independence Heights. Construction of I-610 resulted in

- 1 acquisition of about 67 acres from Independence Heights, with removal of dozens of
- 2 residences in the community. Newly constructed I-610 and I-45 created a physical and
- 3 symbolic barrier around south and east sides of the Independence Heights community.



Index Map

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- Super Neighborhoods
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- Police Station
- Fire Station
- Community Centers
- Shelter
- Park

0 600 1,200 Feet

Community Impact Assessment
North Houston
Highway Improvement Project

Independence Heights
Super Neighborhood

Texas Department of Transportation
© 2019

Date: November 2019 Figure 5-14

Current Demographics of the Super Neighborhood:

Independence Heights has a population of 16,506 and approximately 5,502 housing units (City of Houston 2017a). The demographic composition of the Independence Heights super neighborhood is mostly Hispanic (53.9 percent) and Non-Hispanic Black (29.9 percent) (U.S. Census Bureau 2010).

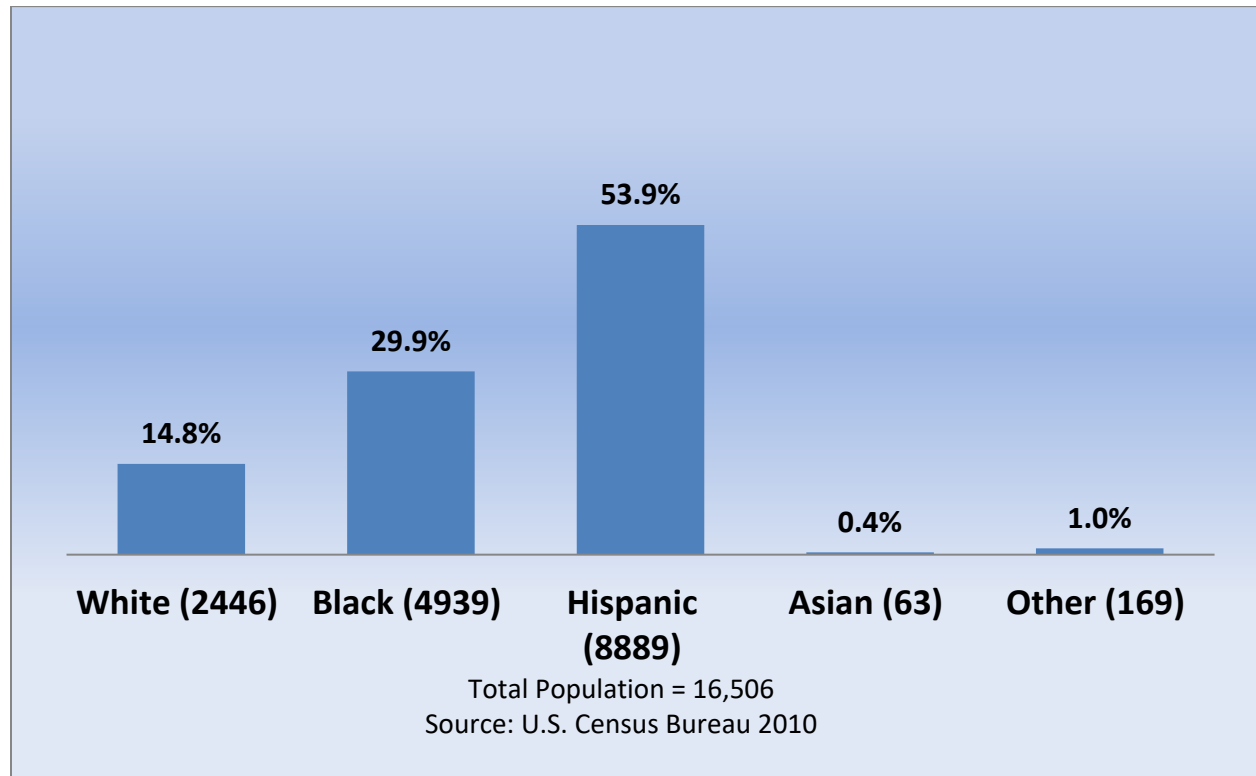
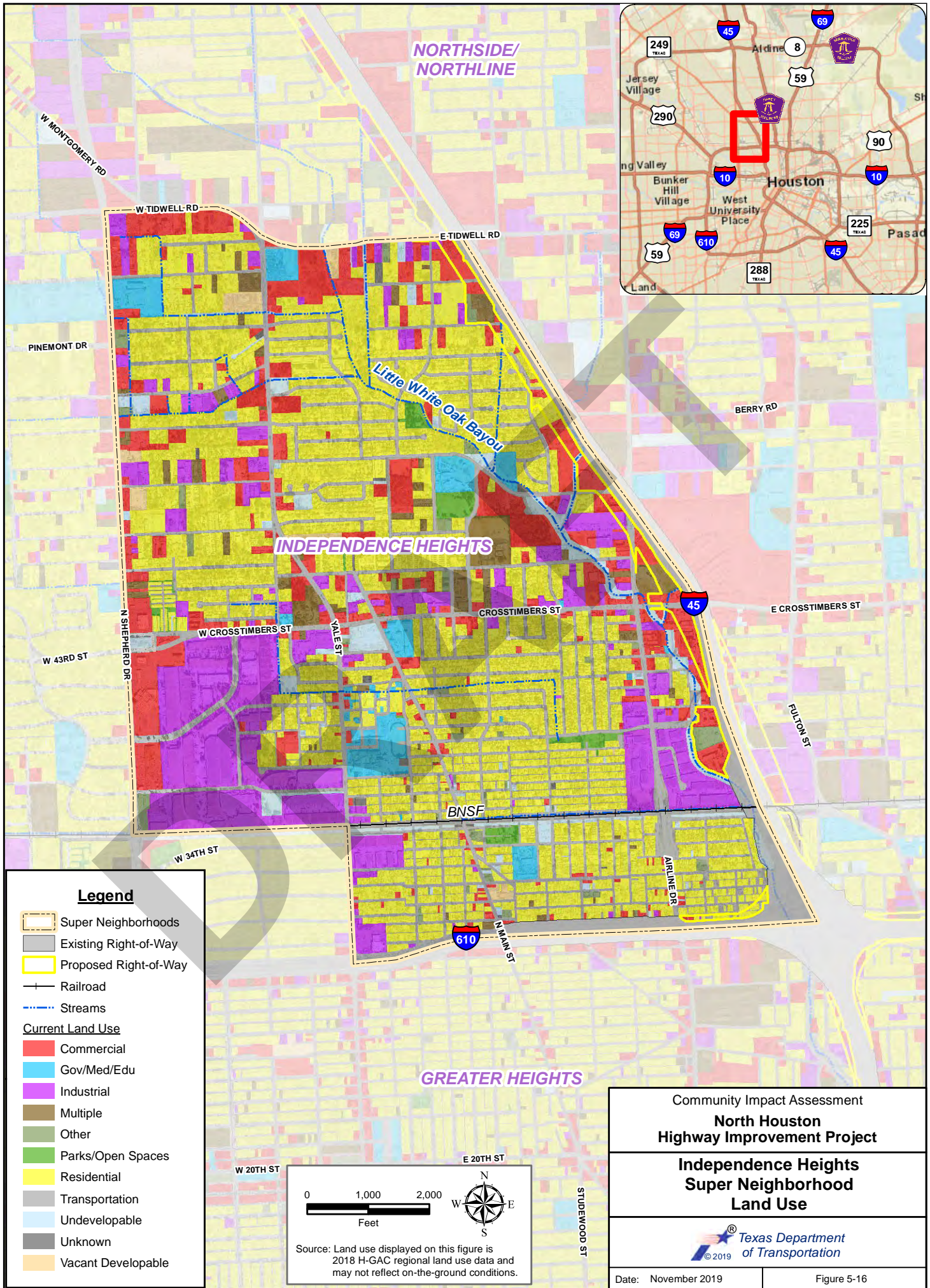


Figure 5-15: Independence Heights Super Neighborhood Percent Population by Race

Land Use and Community Facilities:

Several places of worship and elementary schools are located within residential areas.; The Booker T. Washington High School is located in the western portion of the super neighborhood. The Independence Heights Community Center (603 East 35th Street) is located south of the HB&T railroad tracks between Main Street and Airline Drive. The general land use and location of community facilities in the Independence Heights neighborhood are shown in Figure 5-16.



Future Vision and Goals:

Despite past impacts and loss of residences, Independence Heights remains a cohesive community that retains its history and identity through active neighborhood groups. One of these groups is the Independence Heights Redevelopment Council, a nonprofit organization, whose mission includes promoting historical preservation and neighborhood revitalization.

In 2012, a community planning study was completed for Independence Heights. This plan, the *Independence Heights – Northline Livable Centers Study*, was created through a partnership between H-GAC and the Greater Northside Management District, and in cooperation with the Independence Heights Redevelopment Council and Northline Development. The intent of the study was to create a better quality of life and improved connectivity for the entire study area. The recommendations from the needs assessment in the study included:

- Connectivity and Circulation, specifically the pedestrian connection under I-45, safe pedestrian routes through the community, internal circulation and street grid connections, and continued access to public transportation.
- Public Space, including public parks and trails.
- Environment and Substantiality, specifically floodplain risk reduction and guidelines, increased tree canopy and improve air quality.
- Community Development, including affordable housing, infill of residential parcels in the community, and community services, such as library, schools and support services.
- Economic Development, specifically development projects at Crosstimbers and Main Streets and Northline Transit Stop.
- Placemaking, Historic Preservation and Branding, including Burgess Hall, gateway and signage, and historic building and business strategy.

Effects on Community Cohesion

The Independence Heights super neighborhood would be affected by the displacement of single-family residences, apartments, commercial businesses and a church - Greater Mount Olive Missionary Baptist Church.

The Independence Heights super neighborhood is located in the northwest quadrant of the I-45/I-610 interchange. Construction of the NHHIP would involve work on both roadways, including the acquisition of a right-of-way from the southern and eastern edges of the neighborhood fronting I-610 and I-45 respectively. The three major thoroughfares in Independence Heights that intersect with the proposed project are:

- Crosstimbers Street (east-west connection under I-45)
- Airline Drive (north-south connection under I-45 and I-610)
- Stokes Street (east-west connection under I-45)

1 The proposed work at the I-45/I-610 interchange would substantially improve local mobility
2 in this area of the Independence Heights neighborhood. The interchange (completed in 1962)
3 created a barrier that does not provide for local traffic (i.e., travel via frontage roads) to travel
4 through the interchange in any direction. To travel from one side of the interchange to the
5 other, local traffic must currently use underpasses at either Airline Drive (0.4 miles to the
6 west), Link Road (0.4 miles to the south), Fulton Street (0.3 mile to the east), or Stokes Street
7 (0.4 miles to the north).

8 The proposed improvements would provide frontage roads through the interchange in all
9 directions and create better local mobility across and through the interchange. Access across
10 I-45 and I-610 would be improved at cross streets to the neighborhood. Associated work with
11 reconstructing the I-45/I-610 interchange would improve local access in the area of the
12 interchange. Additionally, all I-45 cross streets and the I-45 frontage roads from I-610 to the
13 HB&T railroad tracks in Independence Heights would include sidewalks to accommodate
14 pedestrians. Furthermore, the width of the Crosstimbers Street, Tidwell Road, and Stokes
15 Street cross streets would accommodate bicyclists. These new bicycle and pedestrian
16 accommodations would create connections where none currently exist and would also help to
17 achieve the goal for Connectivity and Circulation listed in the *Independence Heights –*
18 *Northline Livable Centers Study*.

19 Single-family residential relocations in the Independence Heights neighborhood are clustered
20 in two locations. One, located in the vicinity of the I-45/I-610 interchange, involves
21 12 residences. The other, in the northern part of the neighborhood along Delz Drive, involves
22 15 residences. An apartment complex at 5135 North Freeway, Ventana Garden Apartments,
23 with 84 units would be displaced. Approximately 54 units would be displaced at the La Vista
24 Villa apartments between Tidwell Road and Airline Drive at 4920 Marable Drive. In all, 138
25 total multifamily units would be affected. In addition, the Northline SRO Apartments at 3939
26 North Freeway would be affected but all of the residents have already moved out of the facility.

27 The acquisition of right-of-way for the project would cause the displacement of the Greater
28 Mount Olive Missionary Baptist Church at 1317 North Loop (I-610). The church is located
29 adjacent to the existing I-610 frontage road, near the I-45/I-610 interchange. This interchange
30 was built in the 1950s and does not meet current design standards. The proposed project
31 includes reconstructing the interchange to meet current design standards, which would
32 improve safety. To reconstruct the interchange to meet current design standards and
33 accommodate the proposed I-45 and I-610 frontage roads, managed lanes, direct connectors,
34 and other improvements, additional right-of-way would be required in several areas around
35 the interchange, including at the church property.

36 The current church was completed in 2016 but a church has been associated with this
37 location since at least 1923. The Greater Mount Olive Missionary Baptist Church is associated
38 with the history of the community and is a center for cultural and social activities. The Greater
39 Mount Olive Missionary Baptist Church is a community resource and a center for social
40 activities. Relocation of the church would be a disruption to the church congregation and

1 affect access to the social activities it provides. TxDOT has been coordinating with
2 representatives of the church with the goal of finding a new location in the community. In
3 addition, TxDOT will work with the community to provide a “pocket park” near the current
4 location of the Greater Mount Olive Missionary Baptist Church along with a plaque or other
5 suitable commemoration of the church’s history in the neighborhood.

6 Additional displacements include the Texas Barber College at 4473 North Freeway, and a drug
7 rehabilitation center located in an office building at 4615 North Freeway. An estimated 50
8 businesses in Independence Heights would be affected.

9 Two recent trends have had major implications for Independence Heights. Severe flooding
10 along Little White Oak Bayou during Hurricane Harvey in 2017 affected an estimated 400
11 homes. Floodplain buyout programs have also resulted in removing residences from the area.
12 Another trend is the redevelopment in the community as a result of broader economic growth
13 in the City of Houston. Urban redevelopment pressures began to encroach into the area in
14 recent years which has had an effect on the historic nature of the neighborhood.
15 Redevelopment and infill are changing the appearance and fabric of the Independence
16 Heights neighborhood as well as affecting housing values. Between 2000 and 2015, the
17 median housing value in Independence Heights increased approximately 227 percent (City of
18 Houston 2017a). Independence Heights was the recipient of a new affordable housing
19 complex when, in 2018, the Houston Housing Authority completed its first new affordable
20 housing development in 10 years. The complex contains 154 units.

21 The displacement and relocation of the 27 single-family residences and 138 multi-family
22 residential units in Independence Heights would affect these residents’ access to local
23 services and social activities. These residents, and the services and activities with which they
24 interact, are part of the community cohesion associated with the Independence Heights
25 neighborhood.

26 Independence Heights residents and community leaders have expressed additional concerns
27 about financial resources for residential displacements, disproportionately high and adverse
28 effects to low-income and high-minority areas, loss of cultural and historical assets, and
29 community engagement and involvement with project decision-making.

30 During the design process, TxDOT received community comments during public involvement.
31 In the Independence Heights super neighborhood, adjustments were made to the design (see
32 Appendix B, Table B-1):

- 33 ▪ I-45 between Parker Street and I-610: Shifted I-45 alignment between I-610 and
34 Parker Street to minimize business and residential impacts near Crosstimbers Street.

35 For displacement impacts, numerous mitigation measures and processes are in place.
36 Because the relocation process involves various financial transactions and other paperwork,
37 homeowners and tenants affected by the project could find it more difficult if they are
38 low-income and/or have English as their second language. See Section 5.1.2 for information
39 on residential relocation assistance. As previously discussed, Independence Heights has a

largely minority population and a high percentage of low-income residents. Additionally, TxDOT will provide supplemental assistance to help residents relocate within the same neighborhood.

Another complicating factor of the relocation process is housing affordability in certain neighborhoods. Independence Heights saw a 227 percent increase in housing values from 2000 to 2015 (City of Houston 2017a). This increase is the largest among those neighborhoods affected by the NHHIP. Displaced homeowners may find it difficult to find affordable housing if they are seeking to remain in the neighborhood. Additionally, because the neighborhood has voiced their intent to keep displaced residents in the neighborhood, affordable housing may be a limiting factor.

TxDOT's relocation assistance program for the NHHIP will provide the opportunity for residents to relocate within the community if they so choose. Additionally, enhanced counseling and assistance for displaced residents will be available to facilitate the planning and transition associated with the relocation process. This program is outlined in Section 5.1.2.

TxDOT has met with the Independence Heights Redevelopment Council and extensively with the pastor of the Greater Mount Olive Missionary Baptist Church to discuss relocation options for the church with the goal of finding a new location in the community. TxDOT has attempted to avoid the church in previous designs, but more recent communications from the pastor has indicated that relocation to a new area in the community is preferred.

5.2.2 Segment 2 Super Neighborhoods

The Near Northside super neighborhood⁵ is located on the east side of I-45. The Greater Heights super neighborhood is located on the west side of I-45. These super neighborhoods are predominantly residential and well-established communities dating back to the late 1800s/early 1900s. The individual residential communities in the Segment 2 study area have a significant historical character and a strong sense of community cohesion.

5.2.2.1 Near Northside (also known as Northside Village)

The Near Northside super neighborhood is located on the east side of I-45. The boundaries are I-45 to the west, the Hardy Toll Road to the east, the HB&T railroad tracks to the north, and on the Southern Pacific railroad tracks to the south. See Figure 5-17 for the location and boundaries of the Near Northside super neighborhood.

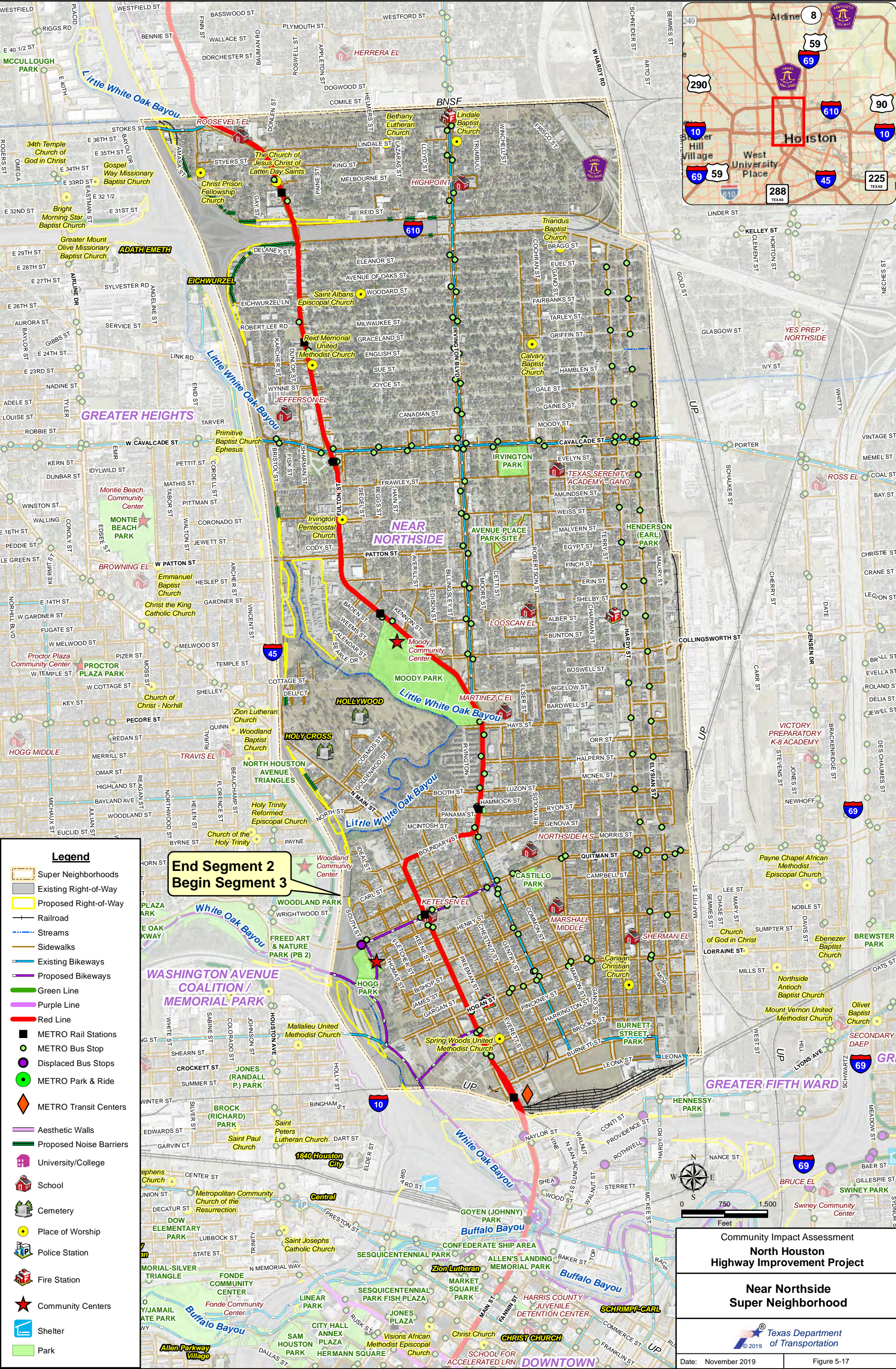
History:

This super neighborhood is a well-established, predominantly residential community dating back to the late 1800s/early 1900s. Near Northside was originally part of the Fifth Ward (subdivided from parts of the First and Second Wards). It was a working-class neighborhood

⁵ The southern portion of Near Northside (between Quitman Street and the UPRR Railroad) is within Segment 3 of the project area; however, for this CIA analysis, impacts to the Near Northside super neighborhood are included as part of the Segment 2 project area.

1 that developed along the Southern Pacific rail yard and other industries on the north side of
2 Buffalo Bayou. The Near Northside Historic District is listed on The National Register of Historic
3 Places (NRHP) and is roughly bounded by Little White Oak Bayou on the north; Hogan Street
4 on the south; I-45 on the west, and the block between North Main Street and Keene Street.

5 Completed in 1962, the I-45/I-610 interchange created a barrier since it does not provide for
6 local traffic (i.e., travel via frontage roads) to travel through the interchange in any direction.
7 To travel from one side of the interchange to the other, local traffic must currently use one of
8 the underpasses at Airline Drive (0.4 miles to the west), Link Road (0.4 miles to the south),
9 Fulton Street (0.3 miles to the east), or Stokes Street (0.4 miles to the north).



Current Demographics of the Super Neighborhood:

Approximately 78.9 percent of the Near Northside super neighborhood is Hispanic (U.S. Census Bureau 2010). See Figure 5-18 below.

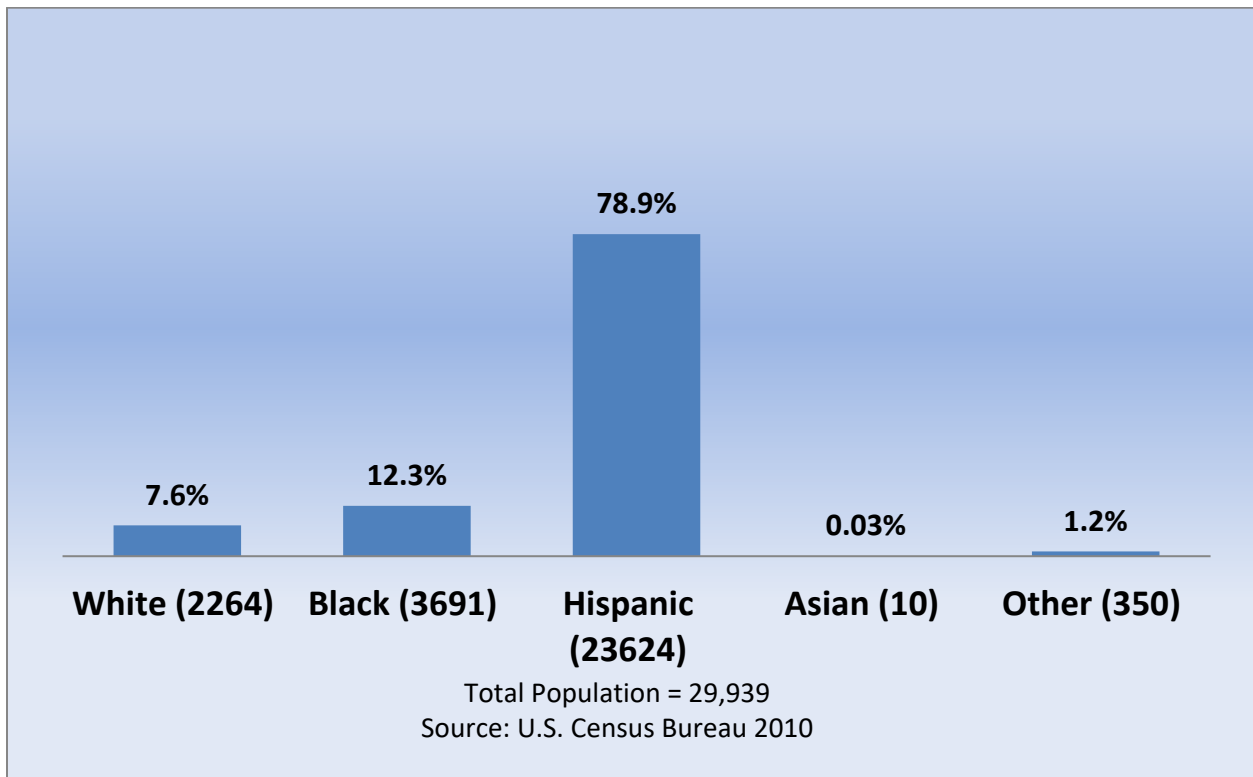
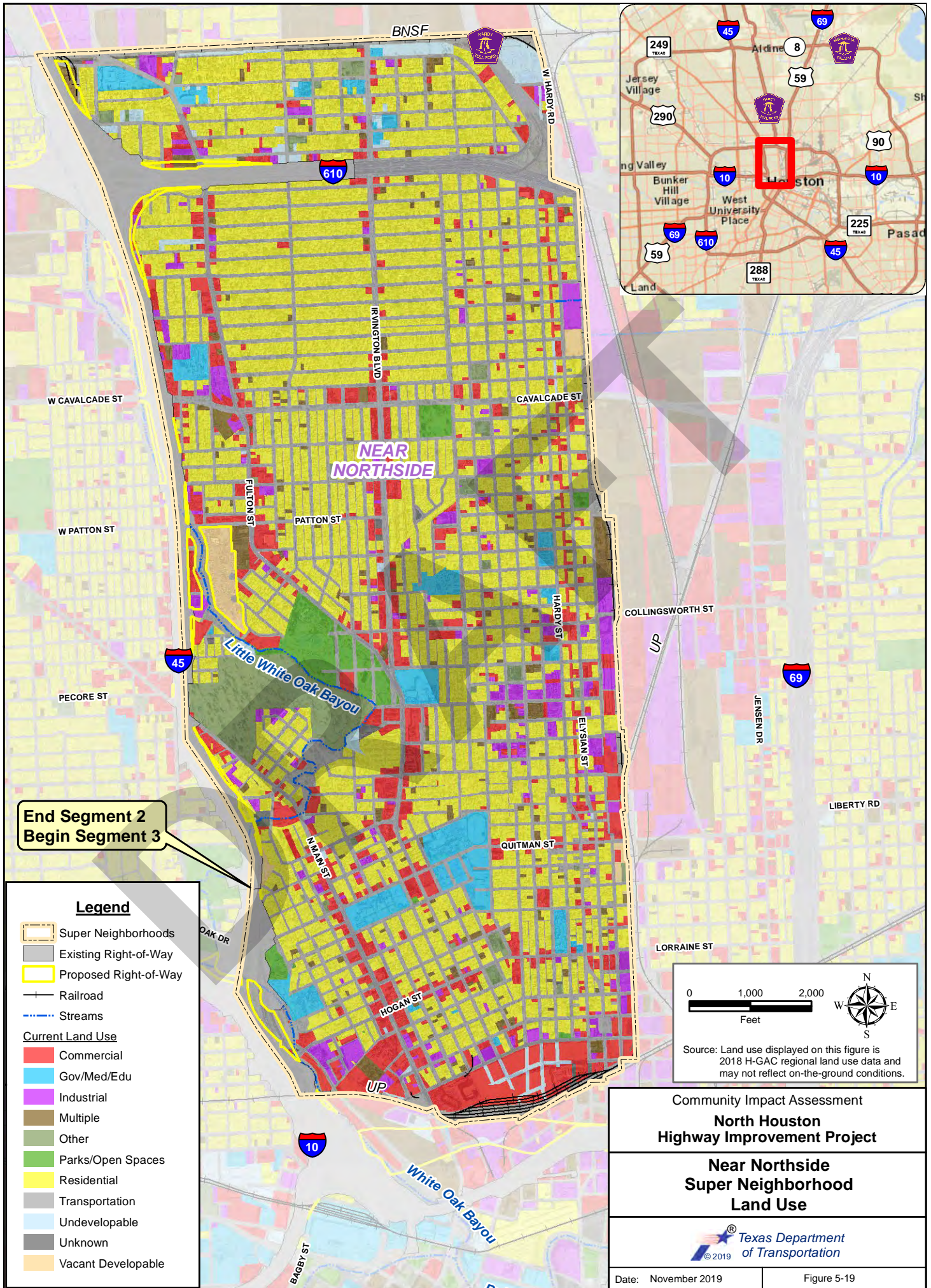


Figure 5-18: Near Northside Super Neighborhood Percent Population by Race

Land Use and Community Facilities:

The individual residential communities in the Segment 2 study area have a significant historical character and a strong sense of community cohesion. The neighborhood includes a mix of single-family residences and multi-family residential complexes. North Main Street and Fulton Street are the major commercial arteries of the neighborhood. Several places of worship and elementary schools are located within residential areas. Moody Park, Northside High School, Marshall Middle School, and the Carnegie Library complex are important gathering places in the community. Community centers in the Near Northside super neighborhood include the Moody Park Community Center (3725 Fulton Street) and the Leonel Castillo Community Center (2101 South Street). The White Oak Music Hall, which opened in the spring of 2016, is located on five acres in Near Northside super neighborhood at 2915 North Main Street at the intersection with North Street.

The METRO LRT North/Red Line runs through Near Northside along Fulton Street. The Houston Downtown area and central business district is directly south of I-10 and Near Northside. Proximity to the Downtown area and the METRO Light Rail expansion has contributed to redevelopment activity in Near Northside. See Figure 5-19 for land use in this super neighborhood.



1 *Future Vision and Goals:*

2 A portion of the southern half of the Near Northside super neighborhood is included in the
3 study area of the Northside Livable Centers Planning Study (H-GAC 2010a). The study area
4 was defined by I-10, I-45, Patton Street, and Elysian Street. Completed in 2010 and conducted
5 in partnership with the Greater Northside Management District, the study involved community
6 stakeholders in identifying quality design concepts to create “a sense of shared identity.” The
7 study presents a future vision for the neighborhood of “a strong local identity that is safe,
8 connected, walkable, vibrant and green while preserving and enhancing existing historic and
9 cultural resources.”

10 The study lays out strategies to enhance comprehensive neighborhood connectivity. The study
11 recommends key elements for achieving the neighborhood vision, including expansion of the
12 regional open space network along the Little White Oak Bayou, pedestrian and streetscape
13 improvements along main north-south and east-west streets and streets within close proximity
14 of new transit stations. In addition, it identifies key locations for smaller neighborhood parks
15 and open spaces including transit plazas. The study also presents next steps to be taken by
16 the Northside Management District, City of Houston and area stakeholders as priority projects
17 that need to be completed within a ten-year period. Priority projects include:

- 18 ▪ Creating a stronger pedestrian connection at the Burnett / North Main Tunnel while
19 implementing “Parkway” upgrades to Burnett Street.
- 20 ▪ Supporting efforts to ensure that existing businesses and residents benefit from the
21 new transit service.
- 22 ▪ Creating “Festival Streets” at Fulton and Quitman and identify the best location for a
23 “Better Block” Project.
- 24 ▪ Creating streetscape improvements along the east-west Hogan/Lorraine corridor.
- 25 ▪ Establishing plazas and small open spaces within publicly owned METRO remnant
26 properties along the rail corridor.
- 27 ▪ Establishing a hike and bike trail along the Little White Oak Bayou, including
28 connections into the neighborhood.

29 As of November 2018, the implementation of the Northside Livable Centers Study is 42
30 percent complete. A total of \$7.7 million has been allocated to built/invested projects. A total
31 of \$7.8 million is needed for projects that are planned/programmed. Goals now are to
32 implement Better Block/temporary pilot projects and monitor the Houston Bike Plan and the
33 bayou bike trail implementations (H-GAC 2019a).

34 The Near Northside community completed an updated “Near Northside Quality of Life
35 Agreement” in 2015. The planning process was led by Avenue CDC and the vision is to create
36 a vibrant, connected, safe, and healthy community. The updated agreement includes a review
37 of progress since the 2010 Near Northside Quality of Life Agreement and the visions, goals,
38 projects and metrics for the next five years (Avenue CDC 2015).

1 A Complete Communities Action Plan was developed for the Near Northside super
2 neighborhood in July 2018. The following is a brief summary of the goals that were developed
3 by the residents of the Near Northside community in conjunction with a Neighborhood Support
4 Team, which is comprised of local leaders within the community. The economy and jobs,
5 housing and mobility and infrastructure goals are:

- 6 ▪ Expand Workforce Development Opportunities
- 7 ▪ Attract New Economic Development
- 8 ▪ Grow Local Businesses
- 9 ▪ Renovate Existing Housing
- 10 ▪ Build New Housing
- 11 ▪ Grow and Secure Homeownership
- 12 ▪ Build Great Streets
- 13 ▪ Improve Neighborhood Mobility
- 14 ▪ Expand Bike Lanes and Facilities

15 *Effects on Community Cohesion*

16 In all, 34 single-family residences, 38 multi-family units, and 27 businesses would be
17 displaced in the Near Northside super neighborhood.

18 The majority of this super neighborhood is east of I-45 and south of I-610. The proposed
19 roadway does not bisect the super neighborhood. Near Northside residents and community
20 representatives have expressed additional concerns about maintaining connectivity
21 throughout the neighborhood and to adjacent communities, loss of local business and
22 services, and impacts to ongoing economic redevelopment and revitalization.

23 Near Northside has approximately 10,164 housing units (City of Houston 2017a). The 34
24 single-family residences and 38 multi-family units that would be displaced by the proposed
25 project would account for less than one percent of the total housing units in the Near
26 Northside super neighborhood. In 2015, the vacancy rate for housing units in Near Northside
27 was approximately 15 percent, which was slightly higher than the estimated 12 percent
28 vacancy rate for housing units in the City of Houston (City of Houston 2017a).

29 In Near Northside, the Preferred Alternative's proposed right-of-way would displace 27
30 businesses, including the Urbana Recording Studio at 3232 Mainford Street. This recording
31 studio is owned and operated by local musicians with national recognition that represent the
32 cultural background of the community. The studio has been located in a residential area in
33 the Near Northside community for over 30 years. TxDOT will assist the recording studio owner
34 in identifying comparable replacement properties in Near Northside, if the owner wants to
35 remain in the neighborhood. With regard to other community facilities, traffic noise levels are
36 not predicted to increase near the Historic Hollywood and Holy Cross Catholic cemeteries.

1 Glen Park subdivision is located on the east side of I-45 in Near Northside. Elementary school
2 students in this subdivision are zoned to attend Travis Elementary School in Greater Heights,
3 located on the west side of I-45 at 3311 Beauchamp Street. The North Street bridge is a bike
4 and pedestrian connector from Near Northside to Greater Heights, Houston Avenue, First
5 Ward, Downtown, and Woodland Park. To elevate I-45 above the 100-year base flood
6 elevation in the vicinity of the Little White Oak Bayou crossing, the North Street bridge must
7 be removed. TxDOT will provide improved pedestrian-bicycle accommodations on the North
8 Main Street bridge, which is approximately 1.75 miles north of North Street, for travel between
9 the Near Northside and Greater Heights. Sidewalks would be added along the I-45 frontage
10 roads. TxDOT will maintain communication with Near Northside neighborhood and Travis
11 Elementary School regarding the schedule for demolition of North Street bridge and will
12 ensure safe pedestrian facilities are provided at North Main Street during construction.

13 I-45 is an existing roadway that already separates the Greater Heights and Near Northside
14 super neighborhoods. Under current conditions, residents must cross I-45 to access services
15 and facilities on the either side of the interstate. The proposed improvements to I-45 would
16 widen the separation between the east and west side of the highway and change access in
17 some locations. However, the proposed improvements to I-45 would not create a new barrier
18 between the neighborhoods or restrict use of local services and facilities. The realignment of
19 I-10 and I-45 to north of the existing I-10 roadway would increase the existing visual barrier
20 between Near Northside and Downtown.

21 The Preferred Alternative includes complete reconstruction of the I-45/I-610 interchange and
22 elevated lanes for direct connectors for the I-45/I-610 interchange. The direct connectors
23 would be higher than the elevation of the existing roadways at the I-45/I-610 interchange.
24 Currently, I-45 does not have frontage roads through the interchange.

25 Property values have been increasing in Near Northside due to increased housing demands
26 in the surrounding area. Between 2000 and 2015, the median housing value in Near
27 Northside increased approximately 168 percent and the median income increased 39 percent
28 (City of Houston 2017a).

29 Displacements would be felt along the corridor, but especially near the intersection of I-45
30 and I-610.

31 Residents in Near Northside have expressed concern about large truck traffic on Patton
32 Street, which feeds into residential areas, entering and exiting the Love's Truck Stop at the
33 intersection of I-45 and Patton Street. Additionally, residents are concerned that proposed
34 changes in entrances and exits to I-45 could increase truck traffic on the I-45 frontage road
35 and affect residents' access to I-45 to I-610. Because of those concerns about truck traffic
36 associated with the truck stop, TxDOT evaluated and is proposing a storm water detention
37 area at the site, which would displace the truck stop.

38 The proposed frontage roads through the I-45/I-610 interchange would improve connectivity
39 and access to the freeways and reduce cut-through traffic on local streets. From north of

1 Cottage Street to south of Main Street, I-45 frontage roads would be constructed on bents
2 over the depressed Section of I-45. The proposed improvements will provide frontage roads
3 through the interchange in all directions and create better local mobility across and through
4 the interchange. Additionally, since sidewalks will be included along the frontage roads,
5 pedestrian access will be created where there was none previously.

6 The Greater Northside Management District is concerned that the realignment of I-10 and
7 I-45 would affect economic redevelopment in Near Northside and would have aesthetic and
8 noise impacts to adjacent, existing, and future development that could be detrimental to the
9 revitalization of the Near Northside (Reyna 2017). Additionally, the management district is
10 concerned that the proposed elevated lanes along the realignment of I-10 and I-45 would
11 increase the visual barrier between Near Northside and the Downtown area, disconnecting
12 Near Northside and the future Hardy Yards development from Houston's central business
13 district. The realignment of I-10 and I-45 would move the roadways closer to Near Northside.

14 During the planning and early design phase of the project, TxDOT met with the Greater
15 Northside Management District and various civic organizations representing the Near
16 Northside. The Greater Northside Management District, the Super Neighborhood 51
17 Leadership Team, and neighborhood residents and community leaders provided public
18 comments on the NHHIP Draft EIS. In Near Northside super neighborhood (a high minority
19 neighborhood), several adjustments were made to the design (see Appendix B, Table B-1):

- 20 ▪ I-45 northbound entrance ramp at Quitman Street: The design was modified to
21 include access to northbound I-45 from Quitman Street. This provides better access
22 for residential areas; however, there are more commercial impacts.
- 23 ▪ I-45 northbound exit ramp at W. Cavalcade Street: The Initial design was modified
24 from a northbound I-45 entrance ramp south of West Cavalcade Street by reversing it
25 to an exit ramp and adding a northbound entrance ramp north of Link Road. Also, the
26 southbound exit ramp was redesigned to go over Link Road, as there was a concern
27 about increasing traffic at the intersection which is near a school.
- 28 ▪ I-610 eastbound and westbound access to Fulton Street/Irvington Boulevard: The
29 redesign reversed the proposed Airline Drive entrance ramp and the Fulton Street
30 exit ramp. This would allow eastbound traffic on the I-610 mainlanes and frontage
31 road west of I-45 to access the I-610 mainlanes and/or frontage road on the east
32 side of I-45. The Collector-Distributor system allows for I-610 eastbound mainlane
33 traffic to queue for exiting the eastbound Fulton Street exit ramp without interfering
34 with through-traffic on the I-610 mainlanes.

35 TxDOT will offer relocation assistance and compensation to displaced residents. Additional
36 information on housing relocation and availability is discussed in Section 5.1.2.

37 Consistent with the Houston Parks Board's vision to extend trails along Little White Oak Bayou,
38 with connecting trails between Woodland Park and Moody Park, TxDOT will provide an opening
39 at Little White Oak Bayou that allows for a trail along the bayou between the parks, which does

1 not exist today. TxDOT will propose an opening conducive to bicycle/pedestrian crossings at
2 Little White Oak Bayou under I-45 just north of Patton Street and at Little White Oak Bayou
3 under I-610.

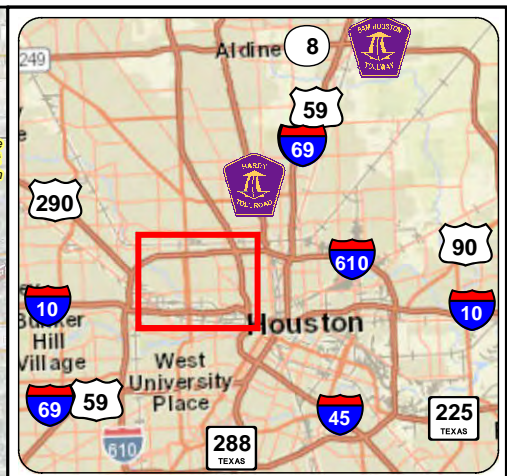
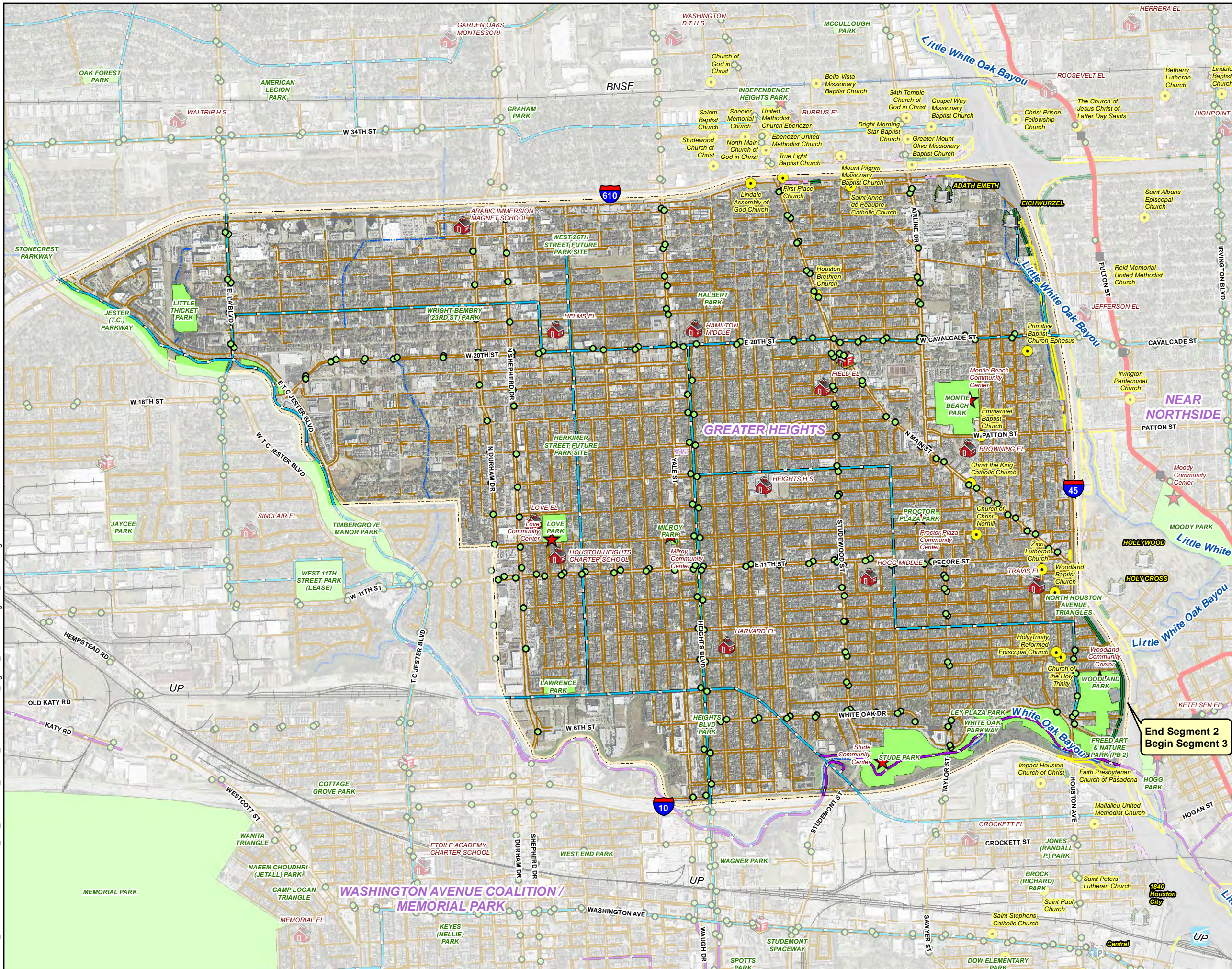
4 TxDOT will provide a highway “cap” over the proposed depressed lanes of I-45. This area will
5 be enclosed by a fence for safety purposes. Future use of the highway cap area for another
6 purpose would require additional development and funding by entities other than TxDOT.

7 The proposed design would maintain connectivity between Near Northside and the Central
8 Business District. All of the existing streets connecting Northside to Downtown would remain
9 and accommodations would be made for a future San Jacinto Street connection. The City of
10 Houston is planning to extend San Jacinto Street across I-10 from Downtown to Fulton Street
11 to provide greater connectivity between Downtown and Near Northside. TxDOT is coordinating
12 and will continue to coordinate with the City of Houston to accommodate the future expansion
13 of San Jacinto Street and maintain connectivity between Northside and the Central Business
14 District. Support columns for the elevated I-10 main and express lanes and I-45 main lanes
15 would be positioned to allow San Jacinto Street to extend under I-10 and connect to Fulton
16 Street at the Burnet Street intersection. Rothwell Street and Providence Street would be
17 grade-separated underpasses at the two railroad tracks between McKee Street and Jensen
18 Drive so that eastbound and westbound traffic between Jensen Drive and Main Street would
19 no longer cross the tracks at-grade. Per the request of the Greater Northside Management
20 District, TxDOT will consider options for “signature” bridges to distinguish the Near Northside
21 neighborhood and improve the visual quality of the proposed project area. The design of the
22 bridges would be conducted as a collaboration between the Greater Northside Management
23 District and TxDOT. Funding for “signature” bridges would be determined in a later phase of
24 project development. Details regarding the design of “signature” bridges cannot be
25 determined until the final design phase, which cannot occur until completion of the NEPA
26 process per FHWA’s rules. 23 CFR 771.113(a).

27 The proposed project would include sidewalks along I-45 and at the major intersections. The
28 proposed project would also provide continuity of sidewalks and shared use lanes along the
29 frontage road by adding sidewalks and pathways in areas as needed. These proposed
30 improvements would have a beneficial effect to community cohesion by improving
31 connectivity between neighborhoods.

32 *5.2.2.2 Greater Heights*

33 The Greater Heights super neighborhood is located on the west side of I-45. Greater Heights
34 super neighborhood boundaries are I-45 to the east, White Oak Bayou to the west, I-610 to
35 the north, and I-10 to the south. See Figure 5-20 for the location and boundaries of the
36 Greater Heights super neighborhood.



Index Map

Legend

- Super Neighborhoods
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- Green Line
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- METRO Park & Ride
- METRO Transit Centers
- Aesthetic Walls
- Proposed Noise Barriers
- University/College
- School
- Cemetery
- Place of Worship
- Police Station
- Fire Station
- Community Centers
- Shelter
- Park

History:

This super neighborhood is a well-established, predominantly residential community dating back to the late 1800s/early 1900s. The Greater Heights super neighborhood is centered on Houston Heights (commonly referred to as “The Heights”). Developed in 1891 by the Omaha and South Texas Land Company, Houston Heights was Houston’s first master-planned community and had its own streetcar, school system, and commercial district. Houston Heights was annexed by the City of Houston in 1918. There are three historic districts in Houston Heights: Houston Heights West, Houston Heights East, and Houston Heights South (City of Houston 2016c).

The I-45/I-610 interchange completed in 1962 created a barrier since it does not provide for local traffic (i.e., travel via frontage roads) to travel through the interchange in any direction. To travel from one side of the interchange to the other, local traffic must currently use one of underpasses at Airline Drive (0.4 miles to the west), Link Road (0.4 miles to the south), Fulton Street (0.3 miles to the east), or Stokes Street (0.4 miles to the north).

Current Demographics of the Super Neighborhood:

The demographic composition of the Greater Heights is mostly Non-Hispanic White (60.9 percent) and Hispanic (30.0 percent). See Figure 5-21 below.

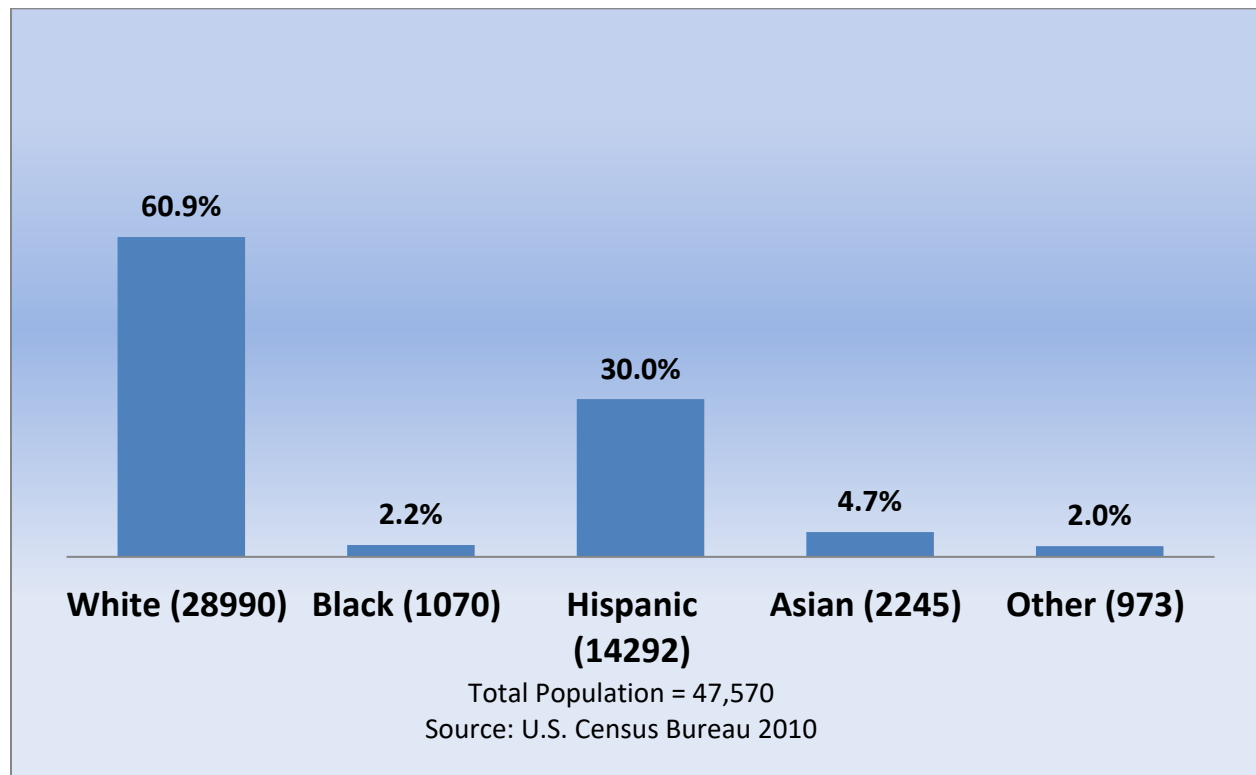


Figure 5-21: Greater Heights Super Neighborhood Percent Population by Race

1 *Land Use and Community Facilities:*

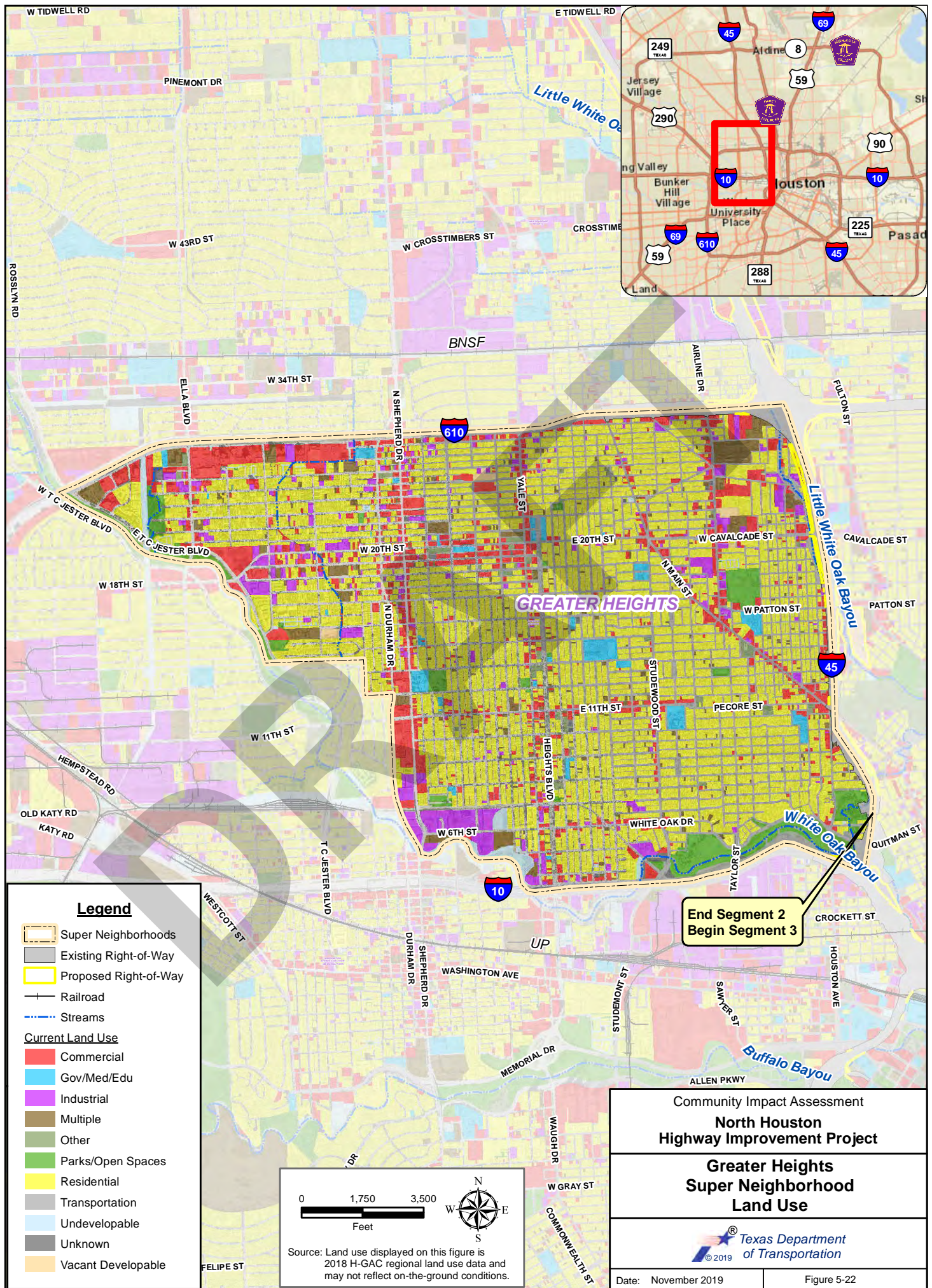
2 Greater Heights has historical character and a strong sense of community cohesion. The
3 neighborhood includes a mix of single-family residences and multi-family residential
4 complexes. North Main Street is the major commercial artery of the neighborhood.

5 Several community centers, parks, places of worship, and schools are located throughout the
6 Greater Heights. Community facilities in the Greater Heights include the Montie Beach
7 Community Center (915 Northwood Street), Woodland Community Center (212 Parkview
8 Street), Proctor Plaza Community Center (803 W Temple Street), Milroy Community Center
9 (1205 Yale Street), Loves Community Center (1000 West 12th Street), and Stude Community
10 Center (1031 Stude Street). See Figure 5-22 for land use in this super neighborhood.

11 *Future Vision and Goals:*

12 The Greater Heights Super Neighborhood Council is a coalition of community-based
13 organizations that work together to improve the quality of life for the Greater Heights
14 community. Their vision states “Greater Heights is a diverse, harmonious and vibrant
15 community living and working together.” The super neighborhood’s values cover:

- 16 ▪ Stewardship: We commit to building a better, stronger community for future
17 generations.
- 18 ▪ Respect: We foster diversity, value our stakeholders and their contributions and treat
19 all fairly.
- 20 ▪ Integrity: We inspire trust by maintaining the highest standards of conduct in all our
21 actions.
- 22 ▪ Teamwork: We foster effective partnerships between stakeholders, volunteers and
23 government officials and we seek opportunities to form alliances with others.
- 24 ▪ Efficiency: We operate proactively with decisiveness and flexibility.
- 25 ▪ Consensus Building: We establish priorities to maximize benefits for the community
26 (Greater Heights Super Neighborhood Council 2019).



Effects on Community Cohesion

The Preferred Alternative would displace nine single-family residences and seven businesses in the Greater Heights, southwest of the I-45/I-610 interchange. Greater Heights has approximately 21,293 housing units (City of Houston 2017a), and residential displacements attributed to the proposed project would account for less than one percent of the total housing units in the Greater Heights super neighborhood. In 2015, the vacancy rate for housing units in Greater Heights was approximately 11 percent, which was slightly lower than the estimated 12 percent vacancy rate for housing units in the City of Houston (City of Houston 2017a). In addition, seven businesses would be displaced.

The displacement and relocation of the nine single-family residences would affect these residents' access to local services and social activities. From a neighborhood standpoint, this number is relatively low and an overall effect to community cohesion is unlikely. TxDOT will offer relocation assistance and compensation to displaced residents. Additional information on housing relocation and availability is discussed in Section 5.1.2.

The North Street bridge is a bike and pedestrian connector from Near Northside into the Greater Heights, Houston Avenue, First Ward, Downtown, and Woodland Park. TxDOT will provide pedestrian-bicycle accommodations on the North Main Street bridge, which is approximately 1.75 miles north of North Street. TxDOT will propose an opening conducive to bicycle/pedestrian crossings at Little White Oak Bayou under I-45 just north of Patton Street and at Little White Oak Bayou under I-610.

I-45 is an existing roadway that already separates the Greater Heights and Near Northside super neighborhoods. Under current conditions, residents must cross I-45 to access services and facilities on the either side of the interstate. The proposed improvements to I-45 would widen the separation between the east and west side of the highway and change access in some locations. The proposed improvements to I-45 would not create a new barrier between the neighborhoods or restrict use of local services and facilities.

The Preferred Alternative includes complete reconstruction of the I-45/I-610 interchange and elevated lanes for direct connectors for the I-45/I-610 interchange. The direct connectors would be higher than the elevation of the existing roadways at the I-45/I-610 interchange. Currently, I-45 does not have frontage roads through the interchange.

The proposed frontage roads through the I-45/I-610 interchange would improve connectivity and access to the freeways and reduce cut-through traffic on local streets. From north of Cottage Street to south of Main Street, I-45 frontage roads would be constructed on bents over the depressed Section of I-45. The proposed improvements will provide frontage roads through the interchange in all directions and create better local mobility across and through the interchange. Additionally, since sidewalks will be included along the frontage roads, pedestrian access will be created where there was none previously.

During the design process, TxDOT met with the I-45 Coalition and received community comments during public involvement. In Greater Heights super neighborhood (which is not

classified as an environmental justice area in this analysis), adjustments were made to the design (see Appendix B, Table B-1):

- Cottage Street and N. Main Street: Removed U-turn movements at Cottage Street and North Main Street. The proposed U-turns would have added pedestrian-vehicle conflicts in this area of the proposed highway “cap”, which was a safety concern.
- Houston Avenue: Houston Avenue between North Main Street and Bayland Avenue was modified to include a roundabout at the I-45 entrance ramp to improve safety while allowing existing two-way traffic to remain.

TxDOT will provide a highway “cap” over the proposed depressed lanes of I-45. This area will be enclosed by a fence for safety purposes. Future use of the highway cap area for another purpose would require additional development and funding by entities other than TxDOT. This configuration would create the opportunity for improved connectivity in the area of the depressed Section of the freeway between the Near Northside and the Greater Heights neighborhoods. TxDOT will continue to coordinate with the City of Houston and the stakeholders committed to developing enhancements for each of the highway caps to ensure safe pedestrian-bicycle access across adjacent streets is incorporated into the detailed design. Displacements would occur primarily west of I-45, south of I-610. See more detailed discussion of mitigation in Section 6.

The proposed project would include sidewalks along I-45 and at the major intersections. The proposed project would also provide continuity of sidewalks and shared use lanes along the frontage road by adding sidewalks and pathways in areas as needed. These proposed improvements would enhance community cohesion by improving connectivity between neighborhoods.

5.2.3 Segment 3 Super Neighborhoods

Segment 3 crosses 10 super neighborhoods including Washington Avenue Coalition/Memorial Park, Downtown, Greater Fifth Ward, Second Ward, Greater Third Ward, Midtown, Fourth Ward, Neartown/Montrose, Museum Park, and University Place. These super neighborhoods are among some of the original and most historic communities in Houston, dating back to the mid-1800s. Downtown is the Houston Central Business District. The east side of Downtown has historically been an industrial area, but much of the area started to redevelop with residential and commercial growth in the 1990’s and 2000’s. Some warehouse buildings have been redeveloped as lofts, offices, studio, and retail spaces. Fourth Ward, Midtown, Neartown/Montrose, and Greater Third Ward, located west and south of Downtown, have also experienced significant residential redevelopment. Museum Park and University Place are located farther south of Downtown and are home to several well-established residential communities and cultural institutions.

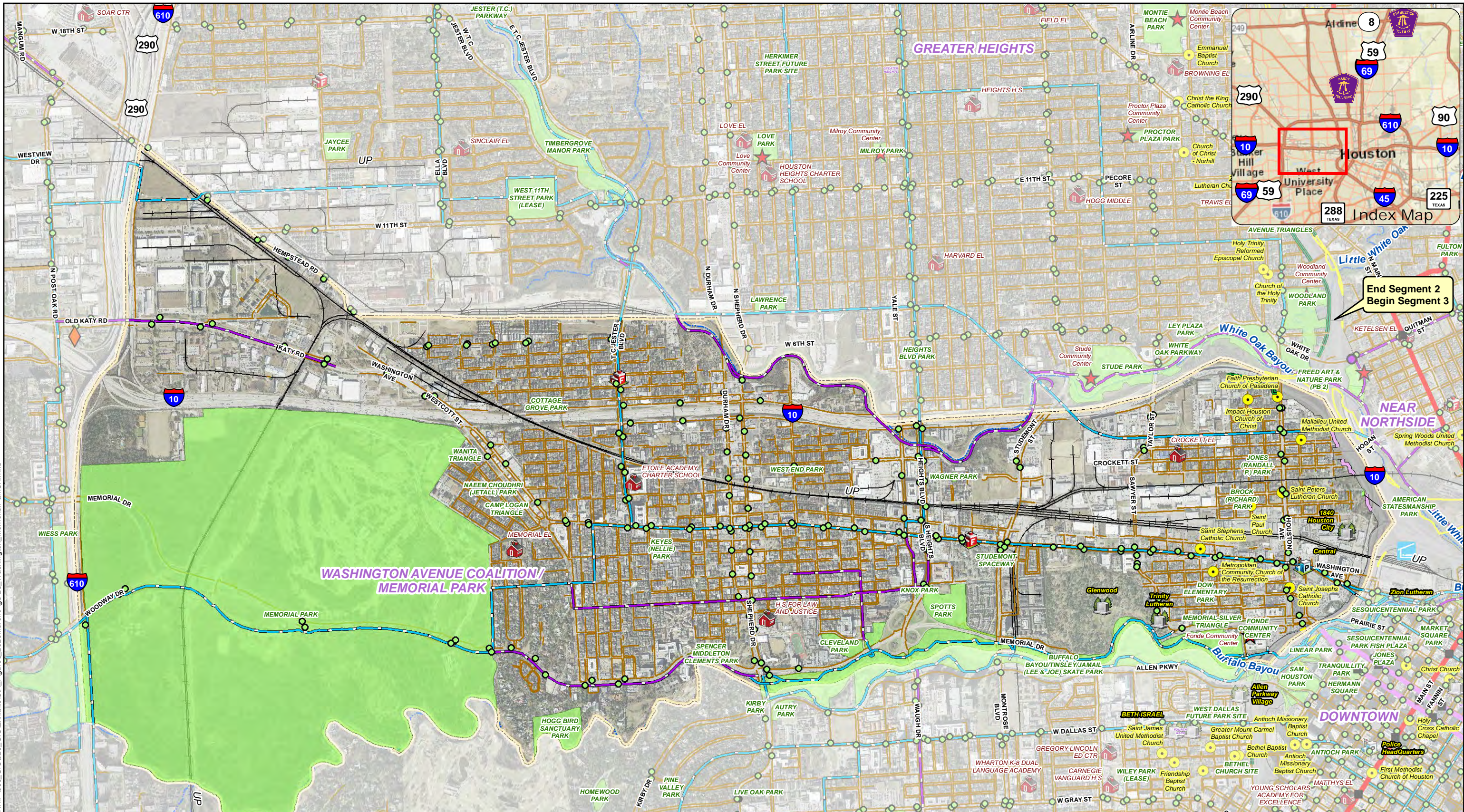
5.2.3.1 Washington Avenue Coalition/Memorial Park

The Washington Avenue Coalition/Memorial Park super neighborhood is located west of Downtown and I-45 and south of I-10. Its boundaries are Buffalo Bayou to the south, I-610 to the west, Hempstead Road and White Oak Bayou to the east, and I-10 to the north. See Figure 5-23 for the location and boundaries of the Washington Avenue Coalition/Memorial Park super neighborhood.

History:

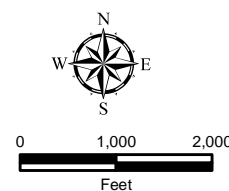
This super neighborhood contains more than 10 neighborhoods, including Memorial Heights, the Old Sixth Ward, the First Ward, Camp Logan, and Crestwood (City of Houston 2019c). Many of these neighborhoods, including the First Ward and old Sixth Ward, developed with the railroad and were home to large immigrant populations. Crestwood and Camp Logan were military neighborhoods associated with the U.S. Army's Camp Logan training camp. In 1924, the City of Houston acquired the training camp land and designated it Memorial Park. Memorial Park is one of the largest urban parks in the United States and is a focal point of this super neighborhood.

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End Segment 2
Begin Segment 3

- Legend**
- | | | | | | |
|-----------------------|----------------------------|---------------------|-------------------------|--------------------|-------------------|
| Super Neighborhoods | Railroad | Green Line | METRO Park & Ride | University/College | Police Station |
| Existing Right-of-Way | Streams | Purple Line | METRO Transit Centers | School | Fire Station |
| Proposed Right-of-Way | HGAC Sidewalks Preliminary | Red Line | Aesthetic Walls | Cemetery | Community Centers |
| Park | Existing Bikeways | METRO Rail Stations | Proposed Noise Barriers | Place of Worship | Shelter |
| | Proposed Bikeways | METRO Bus Stop | | | |
| | | Displaced Bus Stops | | | |



Community Impact Assessment
**North Houston
Highway Improvement Project**

**Washington Avenue Coalition/
Memorial Park
Super Neighborhood**

Texas Department
of Transportation

Date: November 2019 Figure 5-23

Current Demographics of the Super Neighborhood:

The demographic composition of the neighborhood is mostly Non-Hispanic White (59.0 percent) and Hispanic (22.9 percent) as shown in Figure 5-24 (U.S. Census Bureau 2010).

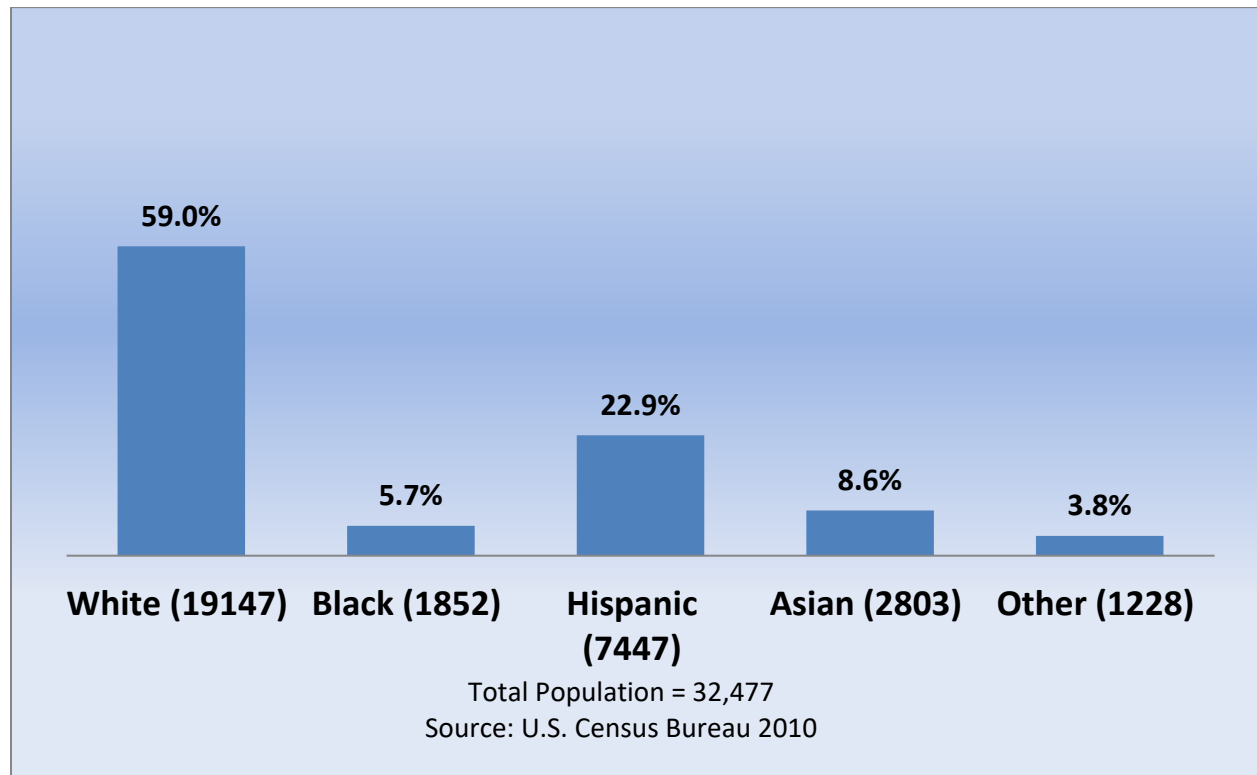
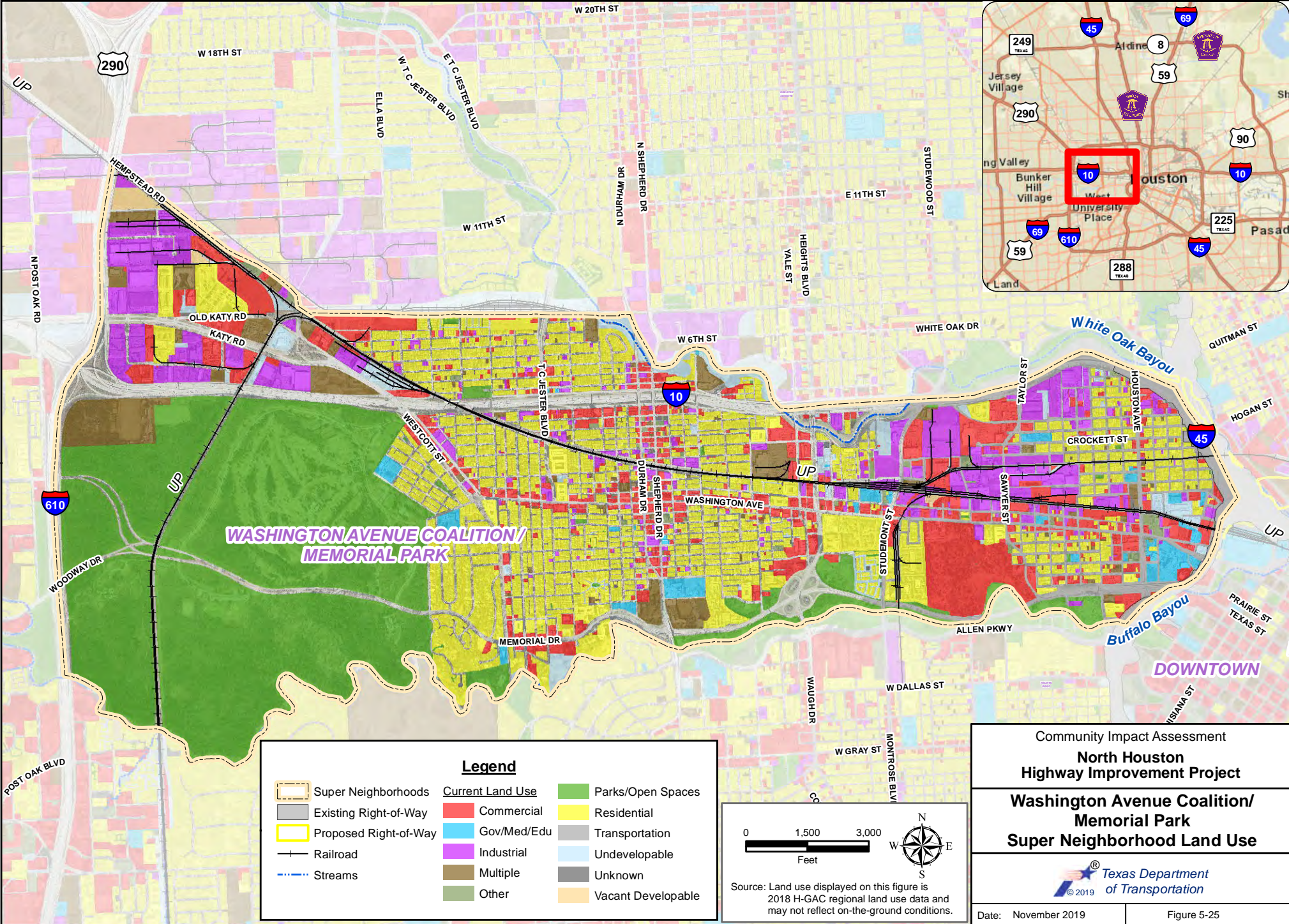


Figure 5-24: Washington Avenue Coalition/Memorial Park Super Neighborhood Percent Population by Race

Land Use and Community Facilities:

The super neighborhood is comprised of a mix of residential properties (both single- and multi-family), commercial, and industrial properties.

Memorial Park is in the western portion of the neighborhood. Other smaller municipal and neighborhood parks include Spotts Park, Buffalo Bayou Park and greenway, and Camp Logan Park. The super neighborhood has several community centers, schools, and places of worship. Community facilities in the area include Fonde Recreation Center (110 Sabine Street), Crockett Elementary School (2112 Crockett Street), Memorial Elementary School (6401 Arnot Street), the headquarters of Multicultural Education and Counseling through the Arts (MECA) in the historic Old Sixth Ward Dow School building (1900 Kane Street), and HISD's High School for Law Enforcement and Criminal Justice (4701 Dickson Street). Other community institutions include the historic Olivewood, Washington, and Glenwood cemeteries, the Old Sixth Ward Protected Historic District, the Houston Arboretum and Nature Center, and Hogg Bird Sanctuary. See Figure 5-25 for land use in this super neighborhood.



Future Vision and Goals:

An eastern portion of the Washington Avenue Coalition/Memorial Park super neighborhood is included in the Washington Avenue Livable Centers Planning Study, the study area of which is defined as I-10 to the north, Memorial Parkway to the south, I-45 to the east, and Washington Avenue and Westcott Street to the west. Completed in 2013, the study involved extensive public outreach to provide recommendations for the Washington Avenue Corridor in accordance with project goals. The study also identifies three “nodes of activity.” It presents corresponding action items to be completed within 5-30 years, including:

- Washington Avenue lane reconfiguration - signs and paint
- Signed bike route along Washington Avenue
- High-Frequency transit along Washington Avenue.
- Temporary open space and public art interventions
- Relocating powerlines
- Curb reconstruction
- Enhanced parks and open spaces
- Bulb-outs and medians
- Pedestrian amenities
- Sidewalk extensions
- Restriction of on-street parking on Silver Street
- Signed bike lanes and route on Silver Street
- Establish business incubation programming
- Bike boulevard along Center Street
- Reconfiguring the street network south of Washington Avenue (H-GAC 2013)

As of November 2018, approximately \$934,000 was allocated to projects listed in the Washington Avenue Livable Planning Study, some of which have been completed. For projects that are planned/programmed, \$22 million is needed for implementation. The Washington Avenue Coalition/Memorial Park plans to continue implementation of the Parking Management District and Bicycle goals, encourage the development of a management district, and increase funding capacity of the tax increment reinvestment zone (TIRZ). The implementation of the study is 18 percent complete (H-GAC 2019a).

Effects on Community Cohesion

No displacements would occur in Washington Avenue Coalition/Memorial Park super neighborhood. The Washington Avenue Coalition/Memorial Park super neighborhood is located west of Downtown and I-45 and south of I-10. I-45 is elevated along the eastern boundary of the neighborhood. The Preferred Alternative’s proposed right-of-way would not divide or isolate this super neighborhood from adjacent communities. The limited direct

1 effects of construction would be felt in the northeastern portion of the Washington Avenue
2 Coalition/Memorial Park super neighborhood.

3 There does not appear to be a risk to community cohesion in this neighborhood. Washington
4 Avenue Coalition/Memorial Park is not considered to be an Environmental Justice community
5 of concern. No risks or impacts to community cohesion are anticipated in this neighborhood
6 and no mitigation measures are proposed.

7 *5.2.3.2 Downtown*

8 The Downtown super neighborhood includes the Central Business District in the Downtown
9 Loop and East Downtown. The Downtown Loop System consists of three interstate highways
10 that create a loop around Downtown Houston. East Downtown (EaDo) is the area on the east
11 side of US 59/I-69 and north of I-45. See Figure 5-26 location/boundaries of the Downtown
12 super neighborhood.

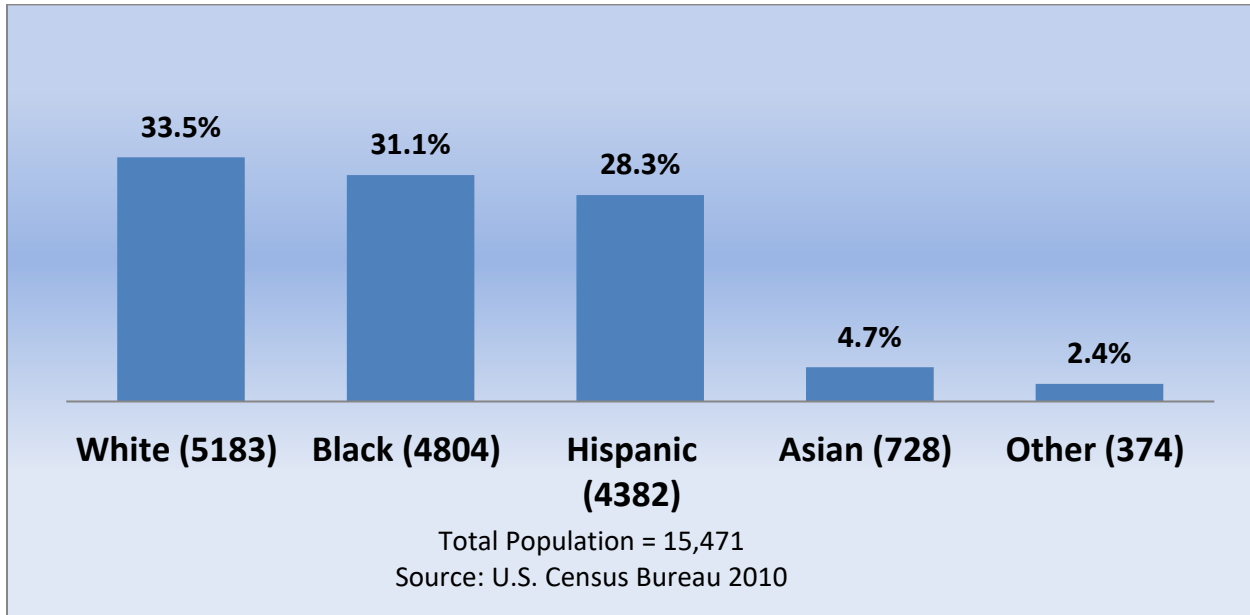
13 *History:*

14 Downtown Houston is surrounded by a loop of freeways constructed in the 1960s and 1970s.
15 The area is home to some of Houston's oldest historic buildings (City of Houston 2019a). Until
16 the freeways formed the downtown boundary, the area was the meeting point for several of
17 Houston's original wards. Much of Downtown Houston's historic building stock was lost after
18 the construction of the freeways encouraged commercial development in the Downtown area
19 and subdivided existing neighborhoods. In addition to commercial development, Downtown
20 Houston is home to two sports stadiums and several performing arts venues. Industrial lofts
21 and condominium developments are adding more residential amenities to the area.



1 ***Current Demographics of the Super Neighborhood:***

2 The demographic composition of Downtown is mostly Non-Hispanic White (33.5 percent),
3 Non-Hispanic Black (31.1 percent), and Hispanic (28.3 percent) as shown in Figure 5-27 (U.S.
4 Census Bureau 2010).



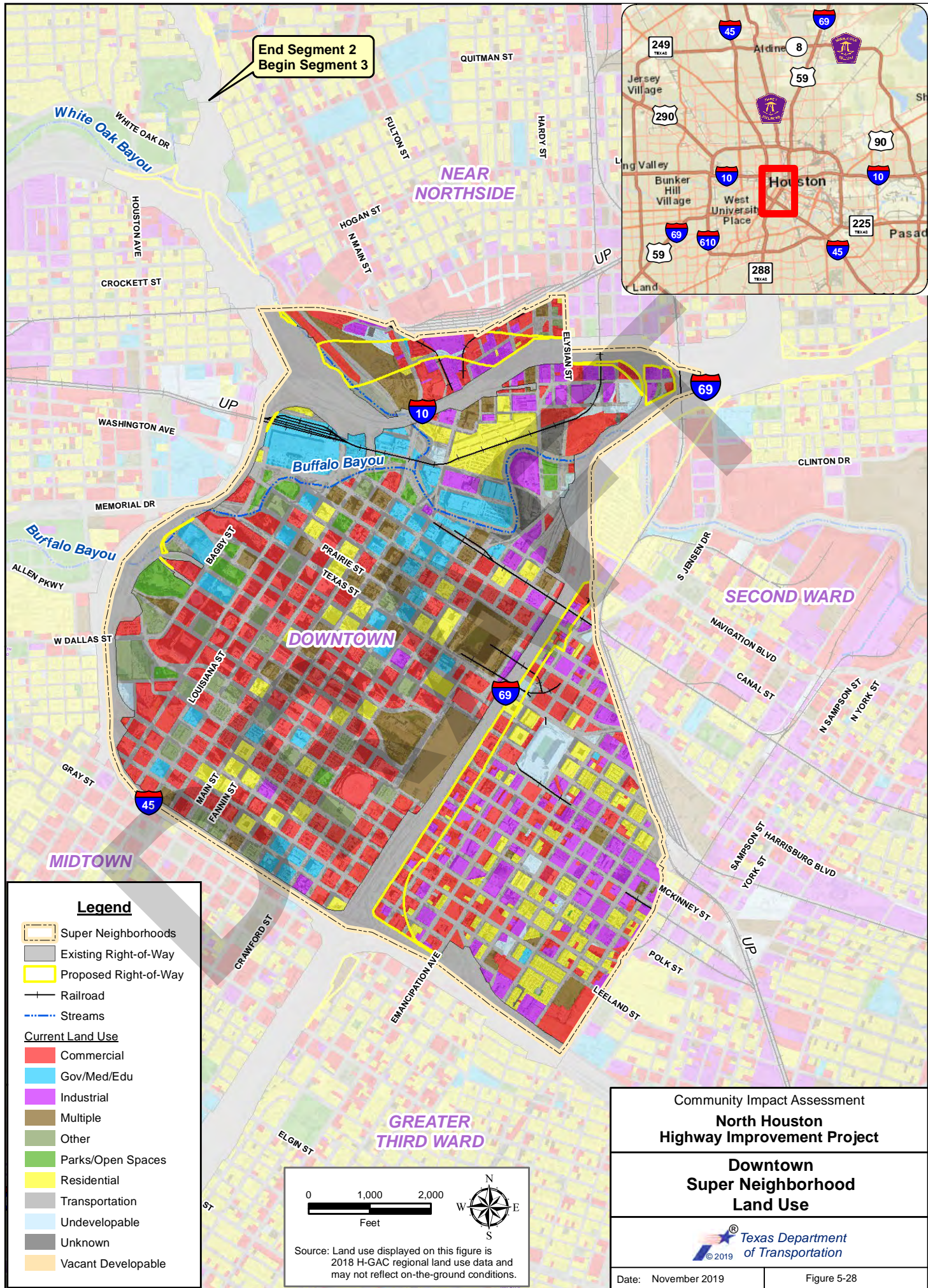
5
6 **Figure 5-27: Downtown Super Neighborhood Percent Population by Race**

7 ***Land Use and Community Facilities:***

8 Development in the Downtown Loop is a mix of commercial, office, and public and institution
9 facilities. East Downtown is a mix of industrial, commercial, and high- to medium-density
10 residential redevelopment.

11 The Downtown super neighborhood has multiple community facilities and attractions
12 including the George R. Brown Convention Center (1001 Avenida De Las Americas), Toyota
13 Center (1510 Polk Street), Discovery Green (1500 McKinney Street), BBVA Compass Stadium
14 (2200 Texas Street), and Minute Maid Park (501 Crawford Street). The Houston Theatre
15 District in Downtown has nine performing arts institutions. The University of Houston
16 Downtown is located both south and north of I-10 and east of I-45. In addition to the popular
17 Discovery Green, there are several other parks scattered throughout the largely urban
18 Downtown super neighborhood.

19 The METRO LRT lines run north-south through Downtown to the Northline Transit Center and
20 east-west across Downtown and through east Downtown. The portion of the Downtown super
21 neighborhood inside the Downtown Loop is also served by the Greenlink bus routes. The
22 Greenlink routes are operated by METRO but are funded by the Houston Downtown
23 Management District and Houston First Corporation. Greenlink buses are free to use and offer
24 an environmentally friendly transportation option. See Figure 5-28 for land use in this super
25 neighborhood.



1 *Future Vision and Goals:*

2 A central portion of the Downtown super neighborhood is included in the Downtown/EaDo
3 Livable Centers Planning Study, the study area of which is defined by Pease Street, St. Charles
4 Street, Commerce Street, and Austin Street. The study was conducted in a partnership with
5 H-GAC in conjunction with the Houston Downtown Management District and the East
6 Downtown Management District. This study was completed in September 2011 and the
7 following provides a summary of the findings.

8 Within this Section of Downtown, major public venues were built over the last three decades
9 and include the Toyota Center, Discovery Green, Minute Maid Park, George R. Brown
10 Convention Center, and the BBVA Compass Stadium. These venues draw a significant amount
11 of people for independent events within their own facilities. The Livable Centers Planning
12 Study examined methods to combine some of these areas to produce a more economically
13 vibrant area and methods to enhance connectivity within the area.

14 Numerous recommendations were developed from the study, including both large scale and
15 small scale projects. The overall purpose of these recommendations is to encourage
16 development and connect these two areas. Major recommendations developed include:

- 17 ▪ Encouraging residential and hotel development and increasing activity on selected
18 streets for their ground level facilities.
- 19 ▪ Improving pedestrian infrastructure for key streets.
- 20 ▪ Constructing separated bike lanes on certain downtown streets, with connections to
21 bike facilities at Buffalo Bayou.
- 22 ▪ Establish a bus circulator system that serves both management districts
23 (H-GAC 2011).

24 As of November 2018, approximately \$214 million had been allocated for built/invested
25 projects. For projects that are planned/programmed, \$225 million is needed. They plan to
26 complete TIRZ #15 infrastructure and street improvements and establish a network of
27 connected parks and METRO Light Rail Triangles. The implementation of the study is 55
28 percent complete (H-GAC 2019a).

29 Another study was completed in November 2017 for the Downtown area: “Plan Downtown:
30 Converging Culture, Lifestyle & Commerce”. This was an 18-month study to develop a 20-year
31 vision plan with recommendations for both short-term and long-term planning, development
32 and design that will improve the visitor appeal, business climate, livability and connectivity
33 within and around Downtown Houston by 2036 for the city’s 200th anniversary. There were
34 numerous participants in this study, including the Downtown District, Central Houston, Inc.,
35 Houston First Corporation, and the Downtown Redevelopment Authority. The Plan’s strategies
36 include:

- 37 ▪ Creating a Green Loop, a 5-mile transportation and recreation circuit that connects
38 Downtown to adjacent neighborhoods.

- Enhancing walkability of Downtown through the development of Downtown Design Guidelines and the addition of new destinations.
- Establishing an Innovation District as the center for technology and entrepreneurship in the Houston region by strengthening connections between businesses/funders and entrepreneurs and pursuing partnerships with area universities.
- Building 12,000 additional Downtown residential units to support population growth from 7,500 to 30,000 over the next 20 years, and enhance the area amenities available to current and future residents.
- Adapting to autonomous vehicles by positioning Downtown to benefit from new technologies.

Effects on Community Cohesion

Numerous displacements would occur in the Downtown super neighborhood.

- 54 businesses
- 2 single-family residences
- 245 multi-family units (east Downtown)

The Preferred Alternative's proposed right-of-way would displace three community facilities in the Downtown super neighborhood that serve low-income and homeless populations throughout the Houston area. Those facilities are: Loaves and Fishes Magnificat Houses Ministries (2009 Congress Avenue), Fatima House (2011 Congress Avenue), and SEARCH Homeless Services (2015 Congress Avenue). These facilities are located east of central Downtown within one block at the intersection of Congress Avenue and US 59/I-69. The NHHIP Study Team sent community outreach questionnaires to Loaves and Fishes Magnificat House Ministries and SEARCH Homeless Services, and representatives of both organizations provided responses. Impacts to the populations served by these facilities and proposed mitigation are discussed in Section 5.9.

Loaves and Fishes Magnificat Houses Ministries provides food, medical care, and housing for low-income and homeless populations. A limited number of facilities offer similar services in the area, and these populations may not have resources for food, shelter, and medical care if the facilities were displaced. Facility representatives are concerned about finding a suitable location in the Downtown area and the expense of refurbishing a new location. SEARCH Homeless Services at 2015 Congress Street provides one-on-one consultation services to help clients find employment. The organization serves over 2,000 clients. SEARCH Homeless Services also partners with local shelters and agencies to enhance assistance for their clients as needed. The organization constructed a new facility in 2015 at the current location, which is easily accessible to clients and located in proximity to other shelters and organizations that serve similar customers. The potential displacement of their facility would disrupt services and could affect communication with customers.

1 TxDOT met with Loaves and Fishes Magnificat Houses Ministries and SEARCH Homeless
2 Services. TxDOT is proceeding with advance acquisition of these properties. Advance
3 acquisition would provide additional time for these facilities to relocate. The organizations
4 could lease back or negotiate a term to remain on their current property while they secure
5 new location and build a new facility. Both organizations plan to relocate in the Downtown
6 area where many homeless people reside and where the majority of services for low-income
7 and homeless individuals are located, so they can continue to provide the same services to
8 their clients. TxDOT will provide assistance to these organizations to help them relocate in the
9 Downtown area.

10 Fatima House (2011 Congress Street) is a Catholic organization led by the Legion of Mary that
11 provides social services and religious ministry services to the community. Limited information
12 about the services provided at Fatima House was provided by the Archdiocese of
13 Galveston-Houston, after several attempts to reach Fatima House by letter and phone. Fatima
14 House conducts ministry and provides services to homeless populations in Houston. TxDOT
15 sent a letter to the Archdiocese offering the opportunity to request advance acquisition of the
16 property. TxDOT will assist this organization to relocate in the Downtown area, if desired.

17 The realignment of I-45 to parallel a realigned I-10 north of Downtown would involve crossing
18 over a portion of the University of Houston Downtown property on the north side of Buffalo
19 Bayou. During construction, some parking areas would not be available. The new elevated
20 highways would be north of the campus and would remove the existing visual barrier (the
21 existing elevated highway) between the university's business school and main building. Traffic
22 noise levels are predicted to increase near the University of Houston Downtown business
23 school on the north side of I-10. However, increased noise would not exceed the FHWA noise
24 abatement criteria (NAC).

25 I-45 and US 59/I-69 would be depressed from Commerce Street to Lamar Street, which
26 would remove an existing visual barrier (the elevated US 59/I-69) between east Downtown
27 and central Downtown. Currently, Commerce Street, Franklin Street, Congress Street, Preston
28 Street, Texas Avenue, Capitol Street, and Rusk Street provide access from east Downtown to
29 central Downtown. To sustain connectivity between east Downtown and central Downtown,
30 bridges would be constructed across I-45 and US 59/I-69 at Commerce Street, Franklin
31 Street, Congress Street, Preston Street, Texas Avenue, Capitol Street, Rusk Street, Walker
32 Street, and McKinney Street.

33 TxDOT will provide a highway "cap" of approximately 20 acres over the proposed depressed
34 lanes of I-45 and US 59/I-69 from approximately Commerce Street to Lamar Street. Future
35 use of the highway cap area for another purpose would require additional development and
36 funding by entities other than TxDOT. This configuration would create the opportunity for
37 improved connectivity in the area of the depressed Section of the freeway between east
38 Downtown and central Downtown.

1 Connectivity between the east side of Downtown and central Downtown is currently limited
2 due to the George R. Brown Convention Center, where several east-west streets do not extend
3 from the east side of US 59/I-69 into Downtown. The proposed project would reconstruct
4 Hamilton Street to be a continuous southbound street adjacent to US 59/I-69 between
5 Commerce Street and Leeland Street. This would reestablish connectivity of four streets
6 (Dallas, Lamar, McKinney, and Walker streets) across US 59/I-69, which was previously cut
7 off when the George R. Brown Convention Center was constructed. This would improve access
8 between Downtown and areas to the east (Second Ward, East End, and Greater Third Ward).
9 Design constraints related to elevating I-45 from the depressed Section between Lamar Street
10 and Commerce Street necessitated the closure of the Polk Street over the highways. Per
11 coordination with the City of Houston, the Polk Street dedicated bike lane would be rerouted
12 to follow the proposed Hamilton Street and connect to the Columbia Tap Rail-Trail via Walker
13 Street. Neighborhoods east of Downtown have been revitalizing over the past several years,
14 and improved connectivity to the Downtown central business district would support economic
15 development.

16 I-45 forms the western and southern boundaries of the Downtown loop and is known locally
17 as the Pierce Elevated. The existing elevated I-45 roadway along the west and south sides of
18 Downtown (Pierce Elevated) would be removed. The I-45 Pierce Elevated creates a visual
19 barrier that separates Midtown from the Downtown central business district. The removal of
20 the Pierce Elevated, between approximately Brazos Street and US 59/I-69, would eliminate
21 this barrier and the proposed street-level boulevard would enhance connectivity between the
22 Downtown and Midtown communities.

23 The portion of I-45 (Pierce Elevated) between Brazos Street and US 59/I-69 would no longer
24 be needed by TxDOT for a transportation use. It could be redeveloped by others to include
25 open space and multimodal connections. TxDOT surplus property is advertised and sold
26 directly to eligible Texas entities (other Texas state agencies, political subdivisions, and
27 approved nonprofit assistance organizations) or is auctioned online to the general public if
28 eligible entities do not request it during the advertisement period. Proposed use of the surplus
29 land and/or elevated structure by others would require separate development and funding by
30 others. A future use of the property is not proposed by TxDOT or evaluated in the Final EIS.
31 TxDOT will coordinate with the City of Houston regarding disposition of that portion of the
32 Pierce Elevated.

33 The communities residing in Downtown and Midtown adjacent to the Pierce Elevated portion
34 of I-45 between Brazos Street and US 59/I-69) would no longer be separated by a visual
35 barrier resulting from the removal of the Pierce Elevated. The proposed street-level boulevard
36 would enhance the connectivity between these communities. Future redevelopment by others
37 of this space could include open space and multimodal connections.

38 TxDOT met with representatives of the City of Houston, the Downtown Management District,
39 the Midtown Redevelopment Authority, the Midtown super neighborhood and other
40 organizations to present the proposed project and solicit input on potential impacts to

community resources, design revisions to improve connectivity and access into Downtown, and city street connections.

Harmony House, located southeast of the I-45/I-10 interchange at 602 Girard Street, provides transitional housing and medical treatment services for low-income and homeless individuals. Harmony House is planning to expand on the adjacent west property. While the Preferred Alternative would not displace the existing or planned facility, most individuals at the Harmony House are dependent on public transportation and temporary or permanent relocation of bus stops near the Harmony House could affect access to and from the facility. Bus stops near Harmony House are located on Franklin Street and would not be impacted. TxDOT will coordinate with METRO to facilitate timely planning for bus stop relocations and bus route detours. Accessibility for riders will be maintained. TxDOT will coordinate with METRO for review of the 30 percent design plans.

Additional follow-up meetings would be conducted as requested by METRO. METRO would notify riders at least one week in advance of any temporary bus stop relocations or closures and bus route changes. METRO would install temporary bus stops out of the proposed right-of-way as close as possible to the original bus stop locations. Impacts related to the relocation of bus stop and changes to routes are discussed in Section 5.5. Impacts to the populations served by this facility and proposed mitigation are discussed in Section 5.5. Additional mitigation measures for impacts to METRO's services are discussed in Tables 6-1 and 6-2.

The northern, western, and southern general boundaries of the Downtown super neighborhood are expected to be impacted by the Preferred Alternative. The proposed improvements would also extend along US 59/I-69 through the super neighborhood. The re-establishment of connectivity of four streets that had been previously cut off due to George R. Brown Convention Center construction would create a community cohesion benefit from the project.

Individuals living and commuting from the Greater Third Ward would experience improved access to and from Downtown due to the re-establishment of connectivity of four streets (Dallas, Lamar, McKinney, and Walker Streets) due to the reconstruction of Hamilton Street to be a continuous southbound street adjacent to US 59/I-69 between Commerce and Leeland Streets. These four streets were previously cut off when the George R. Brown Convention Center was constructed.

Because physical impacts to 19 METRO bus stops are anticipated (a majority of which fall along the southern boundary of the neighborhood), METRO bus riders could be affected by the project. METRO would notify riders at least one week in advance of any temporary bus stop relocations or closures and bus route changes. METRO would install temporary bus stops out of the proposed right-of-way as close as possible to the original bus stop locations.

Users of parks and open space would be affected during construction of the proposed I-45 direct connectors to Downtown. In response to public comments, TxDOT will consider options

1 for a “signature bridge” over Sam Houston Park and Buffalo Bayou. The design of bridges
2 would be conducted as a collaboration between the management districts or neighborhood
3 groups and TxDOT. Funding for “signature” bridges would be determined in a later phase of
4 project development. Details regarding the design of “signature” bridges cannot be
5 determined until the final design phase, which cannot occur until completion of the NEPA
6 process per FHWA’s rules. 23 CFR 771.113(a).

7 Several organizations work within the Downtown super neighborhood, including the Houston
8 Downtown Management District and the East Downtown Management District. TxDOT met
9 with these organizations and received comments on the Draft EIS from both management
10 districts. TxDOT also met with representatives of the Greater East End Management District
11 to present the proposed project and solicit input on potential impacts. The management
12 district and residents in east Downtown and East End are concerned about losing access to
13 central Downtown, specifically access to Downtown via Polk Street. As discussed above, the
14 proposed project would reestablish connectivity of four streets (Dallas, Lamar, McKinney, and
15 Walker streets) across US 59/I-69, which was previously cut off when the George R. Brown
16 Convention Center was constructed. This would improve access between Downtown and
17 areas to the east (Second Ward, East End, and Greater Third Ward). Per coordination with the
18 City of Houston, the Polk Street dedicated bike lane would be rerouted to follow the proposed
19 Hamilton Street and connect to the Columbia Tap Rail Trail via Walker Street.

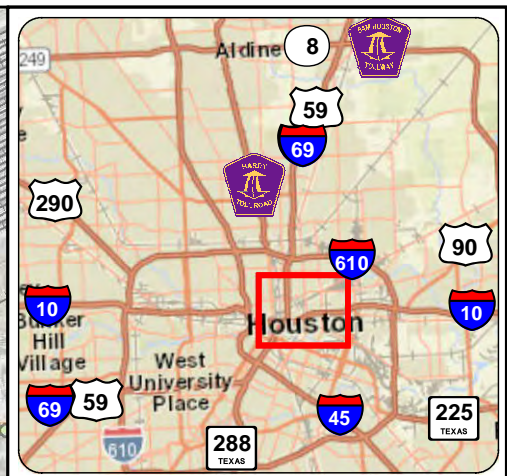
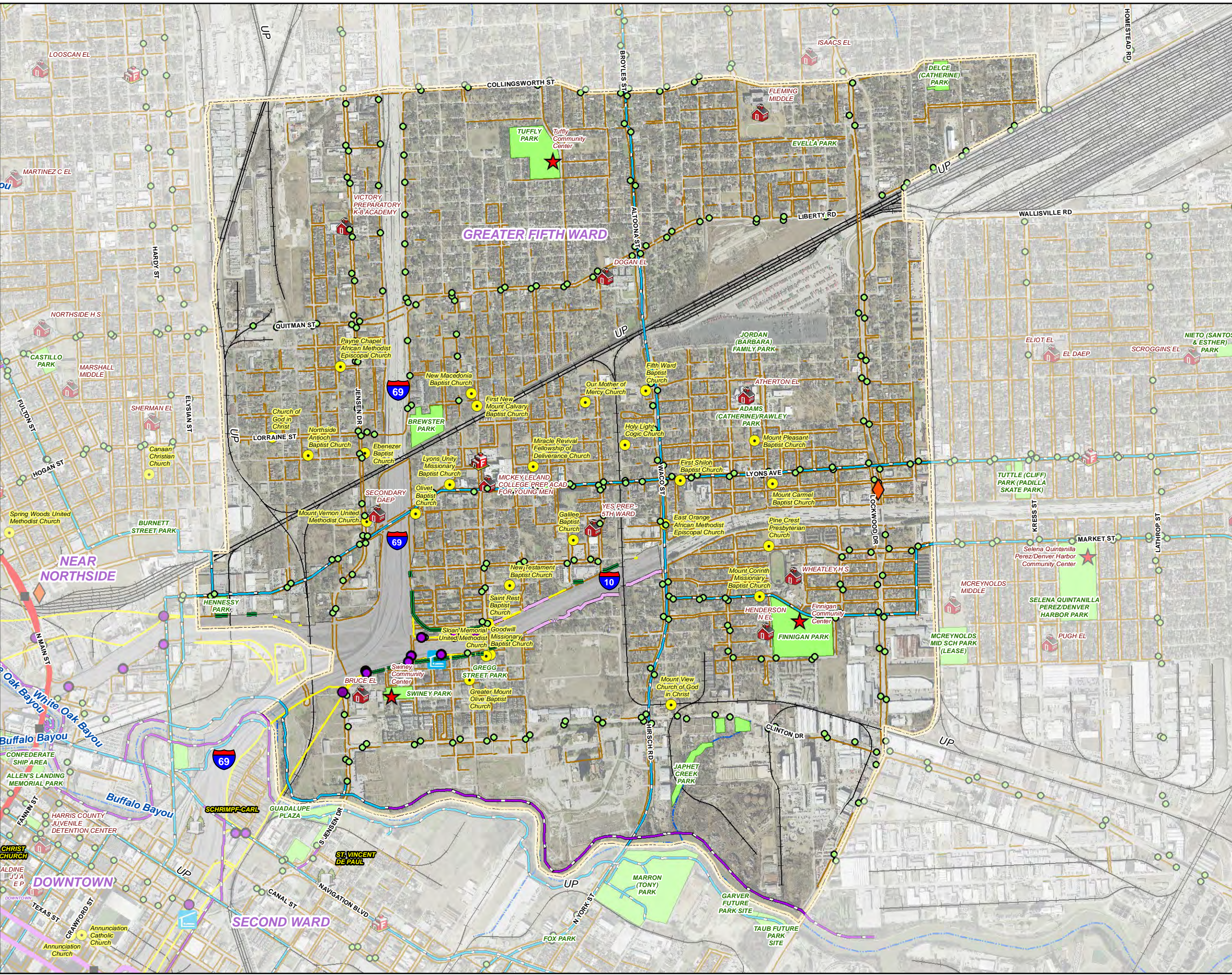
20 Beyond minimizing the potential displacements and impacts on neighborhoods, community
21 Cohesion, and community facilities, TxDOT has revised the project design for the various
22 alternatives considered during the NHHIP study. Additional design measures have been taken
23 in this highly urbanized area to improve traffic operations and allow for a capped Section or
24 potential open space (which would be developed by others) over I-45 and US 59/I-69 in the
25 vicinity of the George R. Brown Convention Center. They would also avoid a historic structure
26 (Cheek-Neal Coffee Building), and allow for grade separations at railroad tracks (rail crossing
27 at Rothwell Street).

28 No mitigation measures are proposed that are specifically linked to community cohesion
29 impacts. However, mitigation measures have been presented to avoid loss of access and
30 assist with accessibility. These include reconstructing Hamilton Street to be a continuous
31 southbound street adjacent to US 59/I-69 between Commerce Street and Leeland Street,
32 which would reestablish connectivity across US 59/I-69 on other streets between Central
33 Downtown and the east side of Downtown: Dallas, Lamar, McKinney, and Walker Streets).

34 *5.2.3.3 Greater Fifth Ward*

35 The Greater Fifth Ward is located northeast of Downtown and its boundaries are Buffalo Bayou
36 to the south, Lockwood Drive to the east, Liberty Road to the north, and Jensen Drive to the
37 west. The Greater Fifth Ward is also bisected by the I-10 and US 59/I-69 interchange. See
38 Figure 5-29 for the location and boundaries of the Second Ward super neighborhood.

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- Park

Community Impact Assessment
**North Houston
Highway Improvement Project**

**Greater Fifth Ward
Super Neighborhood**

Texas Department of Transportation
© 2019

Date: November 2019 Figure 5-29

History:

The Fifth Ward was sparsely populated until after the Civil War, when the population was roughly evenly split between Black or African American and White or Caucasian residents. The ward grew in the 1880s after the construction of several repair shops to serve the Southern Pacific Railroad, and many Fifth Ward residents were employed by the railroad and associated businesses. By the 1920s, the ward had mostly African American residents. The Kelly Court Housing Project (now known as Kelly Village) was Houston's second housing project for African Americans and opened after World War II.

The Fifth Ward was impacted by the construction of I-10, which divided the community, and further impacted by the construction of US 59/I-69, which further divided the community. The Fifth Ward declined after the desegregation of the 1960s, which allowed many African American residents to move to the suburbs. Significant growth has occurred in the ward since the 1990s as the Fifth Ward Community Redevelopment Corporation worked to revitalize the area through home construction, job training, technology and arts access, and cultural programs. Development has included the restoration of the DeLuxe Theater, the installation of public artwork, community fairs, home construction, and home buyer education programs (Kleiner 2010).

Current Demographics of the Super Neighborhood:

Historically, the Greater Fifth Ward was an African American community; today the demographic composition of the super neighborhood is mostly Hispanic (50.6 percent) and Non-Hispanic Black (41.9 percent) as shown in Figure 5-30 (U.S. Census Bureau 2010).

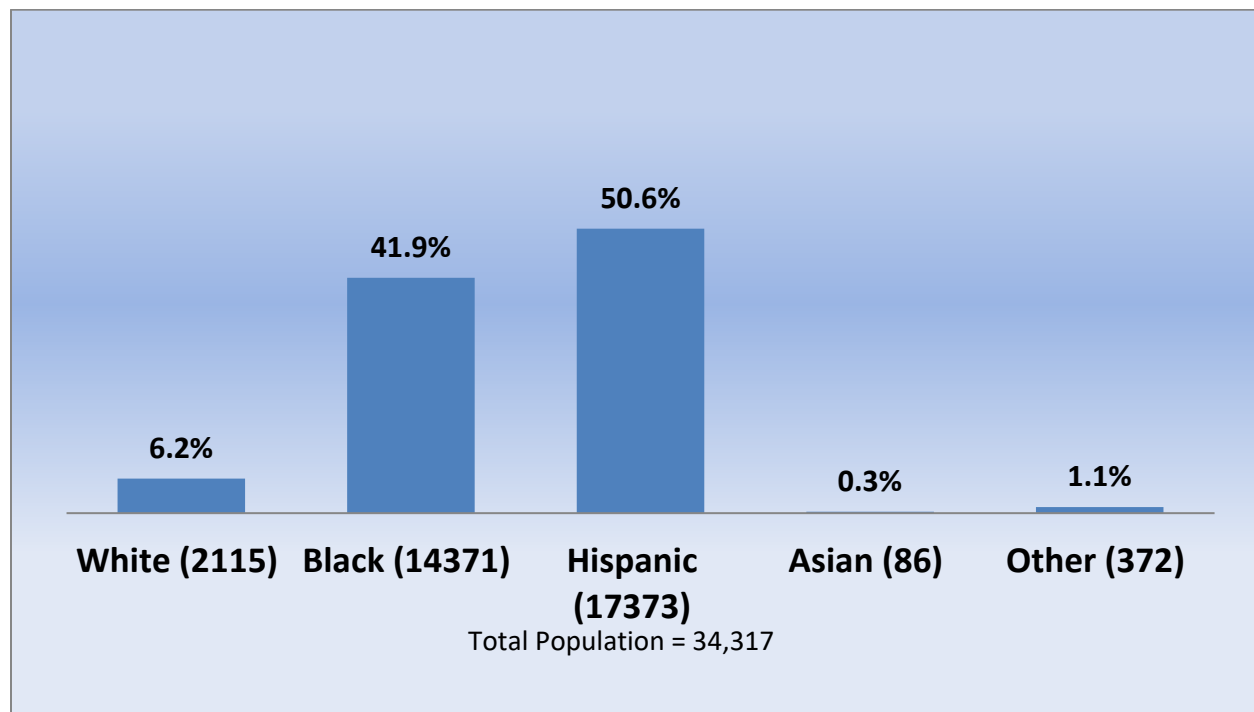


Figure 5-30: Greater Fifth Ward Super Neighborhood Percent Population by Race

1 ***Land Use and Community Facilities:***

2 The community is mostly single-family residential, with pockets of commercial development
3 along major arterial streets and the freeway frontage roads. Industrial development is located
4 south of I-10 and west of US 59/I-69.

5 Community facilities in the Greater Fifth Ward include Swiney Park and Community Center
6 (2812 Cline Street), Finnigan Park and Community Center (4900 Providence Street), Tuffly
7 Park and Community Center (3301 Russell Street), and the Julia C. Hester House (2020 Solo
8 Street). The City of Houston’s Fifth Ward Multi-Service Center (4014 Market Street) provides
9 a centralized location for many service providers. The Greater Fifth Ward also has several
10 places of worship that are over 100 years old, including the Mt. Vernon United Methodist
11 Church (1501 Jensen Drive), Sloan Memorial United Methodist Church (3102 Nance Street),
12 and Pleasant Grove Missionary Baptist Church (2801 Conti Street). The super neighborhood
13 has several schools in residential areas, including Bruce Elementary School (510 Jensen
14 Drive), YES Prep Fifth Ward Public Charter School (1305 Benson Street), and Wheatley High
15 School (4801 Providence Street). Jefferson Elementary School 5000 Sharman Street is
16 classified at a Title I school; TEA lists this school as over 99 percent minority and 99 percent
17 economically disadvantaged.

18 The Greater Fifth Ward has a well-established network of corporations, nonprofits, and
19 organizations that promote community cohesion, economic development, and revitalization
20 of the historic community. The Fifth Ward Community Redevelopment Corporation and the
21 Fifth Ward Redevelopment Authority/TIRZ 18 work with community groups and other
22 organizations to promote development in the super neighborhood. See Figure 5-31 for land
23 use in this super neighborhood.

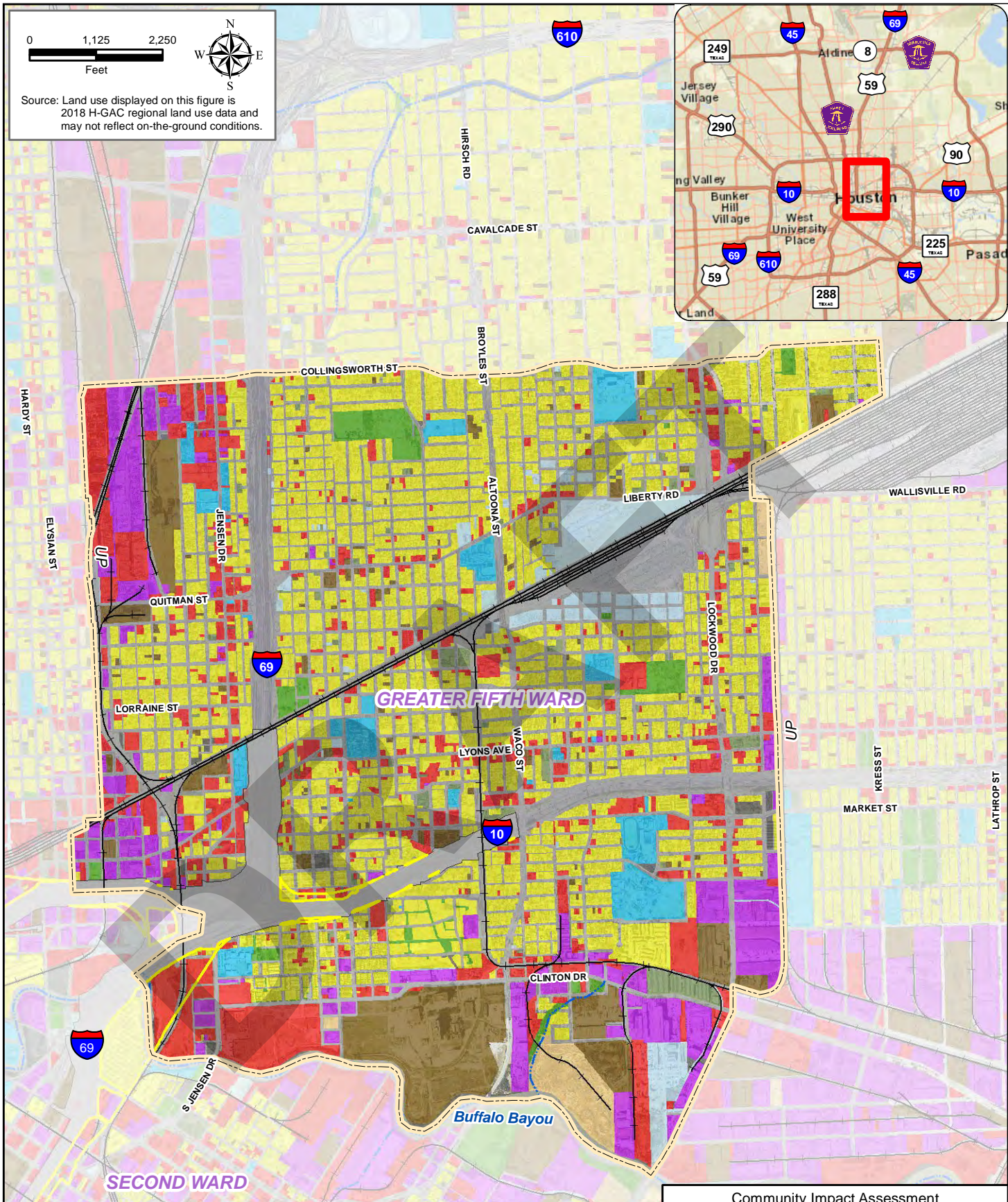
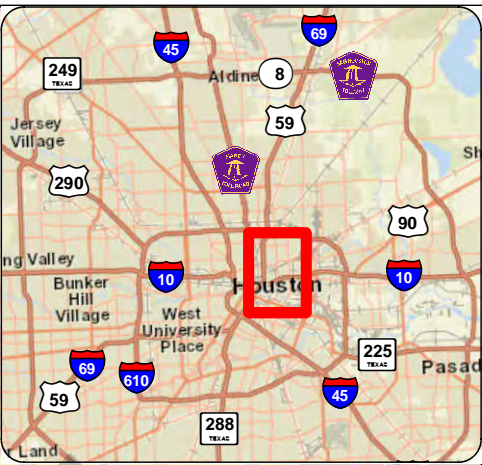
24 ***Future Vision and Goals:***

25 A portion of the northern half of the Greater Fifth Ward super neighborhood is involved in the
26 Kashmere Gardens Livable Centers Planning Study. The study area is defined by I-610 to the
27 north, I-10 to the south, Lockwood Drive to the east, and Jensen Drive to the west. The study,
28 which was completed in 2017, presents an “Action Plan” made up of priority items proposed
29 by Kashmere Gardens residents and stakeholders to help further livability in the community.
30 Development recommendations proposed by residents and stakeholders include:

- 31 ▪ Redeveloping large properties at highway exits as commercial areas to generate jobs
32 and revenue.
- 33 ▪ Preserving and adding to the stock of high-quality affordable housing in
34 neighborhood areas.
- 35 ▪ Strategically cultivating vacant lots as open space buffers and recreational
36 opportunities.
- 37 ▪ Enhancing existing transit corridors with multimodal improvements and infill
38 development.
- 39 ▪ Enhancing local corridors through infill development and multi-family housing.

0
1,125
2,250
Feet

Source: Land use displayed on this figure is 2018 H-GAC regional land use data and may not reflect on-the-ground conditions.



Super Neighborhoods
 Existing Right-of-Way
 Proposed Right-of-Way
 Railroad
 Streams

Legend

Current Land Use

Red

 Commercial

Yellow

 Residential

Green

 Parks/Open Spaces

Blue

 Gov/Med/Edu

Purple

 Industrial

Brown

 Multiple

Grey

 Undevelopable

Dark Grey

 Unknown

Light Green

 Other

Orange

 Vacant Developable

Community Impact Assessment
North Houston
Highway Improvement Project

Greater Fifth Ward
Super Neighborhood
Land Use

Date: November 2019

Figure 5-31

Other priority action items of the plan include:

- Redesigning and rebuilding strategic streets with the most automobile and foot-traffic, including upgrading sidewalks, and adding signage and street lights.
- Addressing soil contamination near Liberty Road
- Expanding job recruitment and training programs through local hiring programs with corporations that have workforce needs nearby (H-GAC 2017b).

As of November 2018, approximately \$3.4 million was allocated to projects listed in the Kashmere Gardens Livable Centers Planning Study, some of which have been completed. For projects that are planned/programmed, \$949,000 is needed for implementation. The Greater Fifth Ward plans to continue to support Houston Parks Board Bike Trails and reactivate their management district. The implementation of the study is three percent complete (H-GAC 2019a).

Additionally, a portion of the southern half of the Greater Fifth Ward super neighborhood is involved in the Fifth Ward/Buffalo Bayou/East End Livable Centers Planning Study. The study area of which is defined by Lyons Avenue to the north, Capitol Street (south of Harrisburg Boulevard) to the south, Lockwood Avenue to the east, and Waco, Bringham, Hirsh and York Streets to the west. The study, which was completed in 2015, involved community members throughout the planning process and identified primary stakeholders that would be responsible for implementation of the plan. These include the Fifth Ward TIRZ 18 and Fifth Ward Community Redevelopment Corporation, Greater East End Management District, and the Buffalo Bayou Partnership. This “Implementation Task Force” was established as a result of the Livable Centers planning process.

The plan encourages the Implementation Task Force to cooperate with other stakeholders and community organizations, and the City of Houston to facilitate the discussion and implementation of community goals. These include preserving affordable housing through community land trusts, restoring the historic Evergreen Negro Cemetery, improving the open space conditions at Finnigan Park, expanding Japhet Creek Park and greenway, and improving pedestrian, bikeway and street network connectivity (H-GAC 2015).

As of November 2018, approximately \$18 million was allocated to projects listed in the Fifth Ward/Buffalo Bayou/East End Livable Centers Planning Study, some of which have been completed. For projects that are planned/programmed, \$27 million is needed for implementation. The Greater Fifth Ward plans to continue to implement streetscape improvements, market recent park improvements, and leverage future Federal Transit Administration (FTA) and Harris County Precinct 1 improvements. The implementation of the study is 53 percent complete.

TxDOT met with the Greater Fifth Ward super neighborhood representatives to present the proposed project and solicit input on potential impacts.

1 *Effects on Community Cohesion*

2 Residential displacements would occur in Greater Fifth Ward. A total of 32 single-family
3 residences and 50 multi-family units in Kelly Village would be displaced. Kelly Village is a
4 federally-funded public housing project. TxDOT is coordinating with the HHA in regard to this
5 property. HHA lacks the housing supply necessary to meet the current demand for public
6 housing units. See Section 5.1.2.3 for a more detailed discussion of Kelly Village.

7 Currently, Houston is facing population growth; many people are moving to the area and more
8 are expected in the future. The region is also facing an affordable housing shortage; many
9 affordable and public housing developments have been affected by Hurricane Harvey, and
10 the remaining affordable housing stock is too sparse to meet the growing demand. Repairs
11 and rebuilding efforts for housing in Houston are still ongoing, but these efforts are running
12 months behind the pace of other comparable disaster recovery work. There is still a significant
13 need for repairs, reconstruction, and more affordable housing (particularly for renters and
14 low-income families).

15 The City of Houston and other planning entities have established strategies to address these
16 trends of population growth and affordable housing decline. The Downtown/EaDo Livable
17 Centers Planning Study and Plan Downtown both advocate for the construction of numerous
18 additional residential units downtown to support current and future population growth in the
19 area. Additionally, several organizations are committed to developing housing and improving
20 quality of life for citizens in vulnerable communities. Affordable housing stakeholders in the
21 Houston area are currently focusing on rebuilding the affordable housing stock in response to
22 Hurricane Harvey in a way that aligns with the city's goals for sustainable, walkable, complete
23 communities.

24 The risk is that demand for affordable housing is high already and the proposed project
25 increases that demand, although it also addresses supply as discussed in the mitigation
26 section.

27 The Preferred Alternative's proposed right-of-way would displace more single-family
28 residences in the Greater Fifth Ward than in any other super neighborhood in the Segment 3
29 study area. The Greater Fifth Ward has approximately 8,204 housing units (City of Houston
30 2017a), and residential displacements attributed to the proposed project would account for
31 less than one percent of the total housing units in the Greater Fifth Ward super neighborhood.
32 In 2015, the vacancy rate for housing units in Greater Fifth Ward was approximately 17
33 percent, which was higher than the estimated 12 percent vacancy rate for housing units in
34 the city of Houston (City of Houston 2017a).

35 Between 2000 and 2015, the median housing value in the Greater Fifth Ward increased
36 approximately 203 percent and the median income increased 107 percent (City of Houston
37 2017a). The Greater Fifth Ward remains one of the lower income areas of Houston, and the
38 median income in the Greater Fifth Ward is still significantly lower than the median income in

1 the city of Houston. Impacts to low-income and high-minority populations are discussed in
2 Section 5.9.

3 The proposed right-of-way of the Preferred Alternative would displace the following community
4 facilities in the Greater Fifth Ward super neighborhood: Goodwill Missionary Baptist Church
5 (3405 Nance Street) and Helping Hands Charity (3108 Nance Street).

6 Goodwill Missionary Baptist Church is a predominantly African American church located
7 southeast of the I-10 and US 59/I-69 interchange. The church was founded in the Greater
8 Fifth Ward and has approximately 100 members, including residents from Kashmere Gardens
9 (a neighborhood located southeast of the I-610 and US 59/I-69 interchange) and southwest
10 Houston. The church has been in the current location for 58 years. A portion of the church's
11 property was impacted during the previous I-10 expansion.

12 Helping Hands Charity collects donations for the local community and schools in the Greater
13 Fifth Ward. Sloan Memorial United Methodist Church (3108 Nance Street) administers
14 services provided by Helping Hands Charity. Sloan Memorial United Methodist Church was
15 founded in the early 1880s near the current location of the Helping Hands Charity. The original
16 church building was destroyed in the early 1900s. The congregation is planning to build a new
17 church on their vacant property adjacent to the Helping Hands Charity site, and ultimately
18 have both facilities on one site.

19 In response to these direct impacts, TxDOT will facilitate the relocations and provide
20 assistance with securing adequate replacement housing, subsidized or unsubsidized, in
21 accordance with federal regulations. Displaced residents of Kelly Village will be assigned
22 relocation specialists located onsite to assess family's needs and provide a smooth transition
23 for families into other housing options. Displaced residents of Kelly Village will be offered a
24 Section 8 Voucher, or be given priority to reside in other HHA units. See Section 5.1.2.3.4.2
25 for a discussion of the mitigation commitments related to Kelly Village.

26 Representatives of Goodwill Missionary Baptist Church would like to relocate their facility in
27 the Greater Fifth Ward, and they have requested to be relocated to a property that would be
28 large enough to accommodate future parking needs. They have expressed interest in
29 relocating to a nearby vacant property that was formerly occupied by Bruce Elementary
30 School. TxDOT has met with the pastor and is working on advance acquisition of this property
31 and will provide assistance so that the church can relocate in the same neighborhood.

32 The NHHIP Study Team spoke with representatives of Helping Hands Charity (Sloan Memorial
33 United Methodist Church), and they would like to relocate in the Greater Fifth Ward area near
34 the planned site of the new Sloan Memorial United Methodist Church. They plan to rebuild the
35 church on a portion of the property that would not be acquired for new right-of-way, and could
36 relocate the Helping Hands Charity to the new church building or physically move the building
37 to an area of their property that would not be impacted by right-of-way acquisition. TxDOT is
38 proceeding with advance acquisition of their properties.

1 I-10 is an existing roadway that already crosses through Greater Fifth Ward. Under current
2 conditions, residents must cross I-10 to access services and facilities on the other side of the
3 interstate. The proposed improvements to I-10 would widen the separation between the north
4 and south side of the highway. However, the proposed improvements to I-10 would not create
5 a new barrier in the Greater Fifth Ward.

6 The community cohesion effects will be felt in the western and central portions of the Greater
7 Fifth Ward super neighborhood. The Fifth Ward was impacted by the construction of I-10,
8 which divided the community, and again with the construction of US 59/I-69, which further
9 divided the community. Although the proposed improvements to I-10 would widen the
10 separation between the north and south side of the highway, the proposed improvements to
11 I-10 would not create a new barrier in the Greater Fifth Ward.

12 TxDOT coordinated with the Fifth Ward Redevelopment Authority and the East Bayou Civic
13 Club regarding access for the Greater Fifth Ward area. TxDOT developed a revised design to
14 grade-separate Rothwell Street and Providence Street under the two railroad tracks between
15 McKee Street and Jensen Drive, so that eastbound and westbound traffic between Jensen
16 Drive and Main Street would no longer cross the tracks at-grade. In response to comments
17 from the East Bayou Civic Club, Meadows Street would remain as two-way street to
18 accommodate bus routes to the Bruce Elementary School.

19 *5.2.3.4 Second Ward*

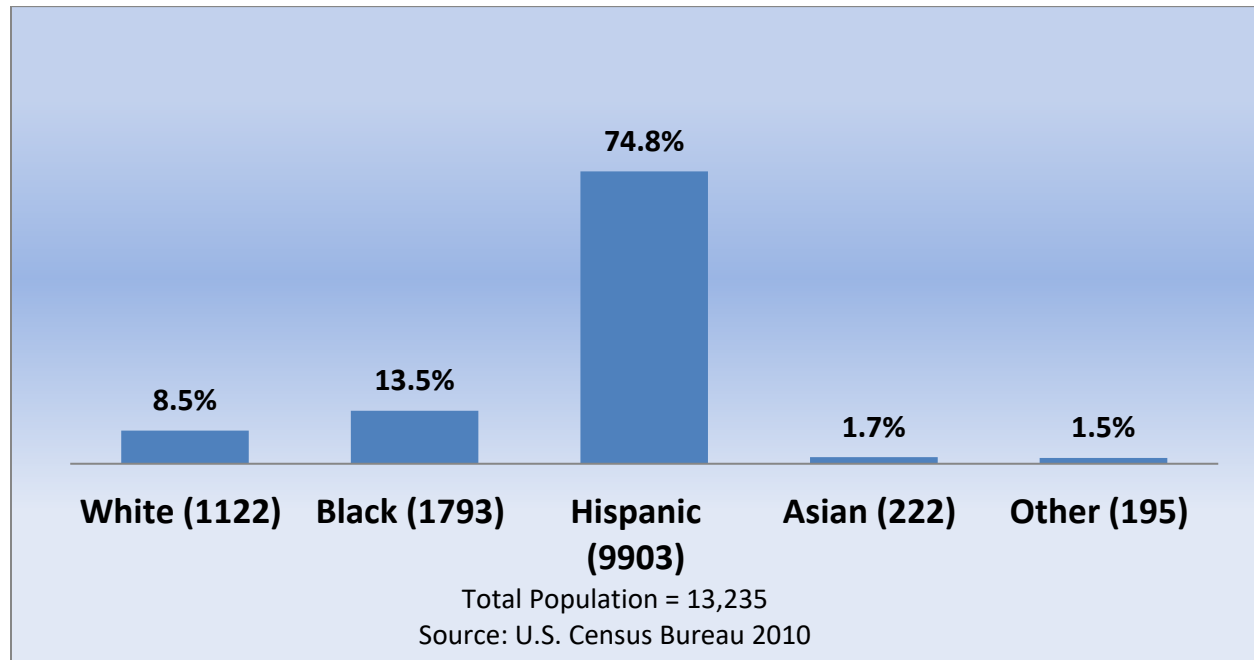
20 The Second Ward super neighborhood is located east of Downtown and US 59/I-69 and south
21 of the Buffalo Bayou. Its boundaries are Buffalo Bayou to the north, Lockwood Avenue to the
22 east, and railroad tracks to the south and west. See Figure 5-32 for the location and
23 boundaries of the Second Ward super neighborhood.

24 *History:*

25 The Second Ward is one of Houston's four original neighborhoods and contains Frost Town,
26 which is considered the oldest part of Houston. The Second Ward was largely settled by
27 Germans in the nineteenth century. Italian and Anglo populations also lived in the Second
28 Ward. By the 1940s, the Second Ward was primarily a Hispanic enclave and industrial hub.
29 The area served as a self-sustaining center of the Hispanic community in Houston and
30 contained many important Hispanic institutions and businesses. The Second Ward
31 experienced decline in the 1960s and further declined with the loss of industrial jobs in the
32 1980s (City of Houston 2019b). Today, the Second Ward is stabilizing with an increasing
33 number of community organizations and families.

1 ***Current Demographics of the Super Neighborhood:***

2 The Second Ward is a historically and culturally significant neighborhood for Houston, as one
3 of the first neighborhoods and a historically Hispanic community center. The Second Ward
4 maintains its strong cultural identity, as the current population in the Second Ward is
5 predominantly Hispanic (74.8 percent) as shown in Figure 5-33 (U.S. Census Bureau 2010).



6
7 **Figure 5-33: Second Ward Super Neighborhood Percent Population by Race**

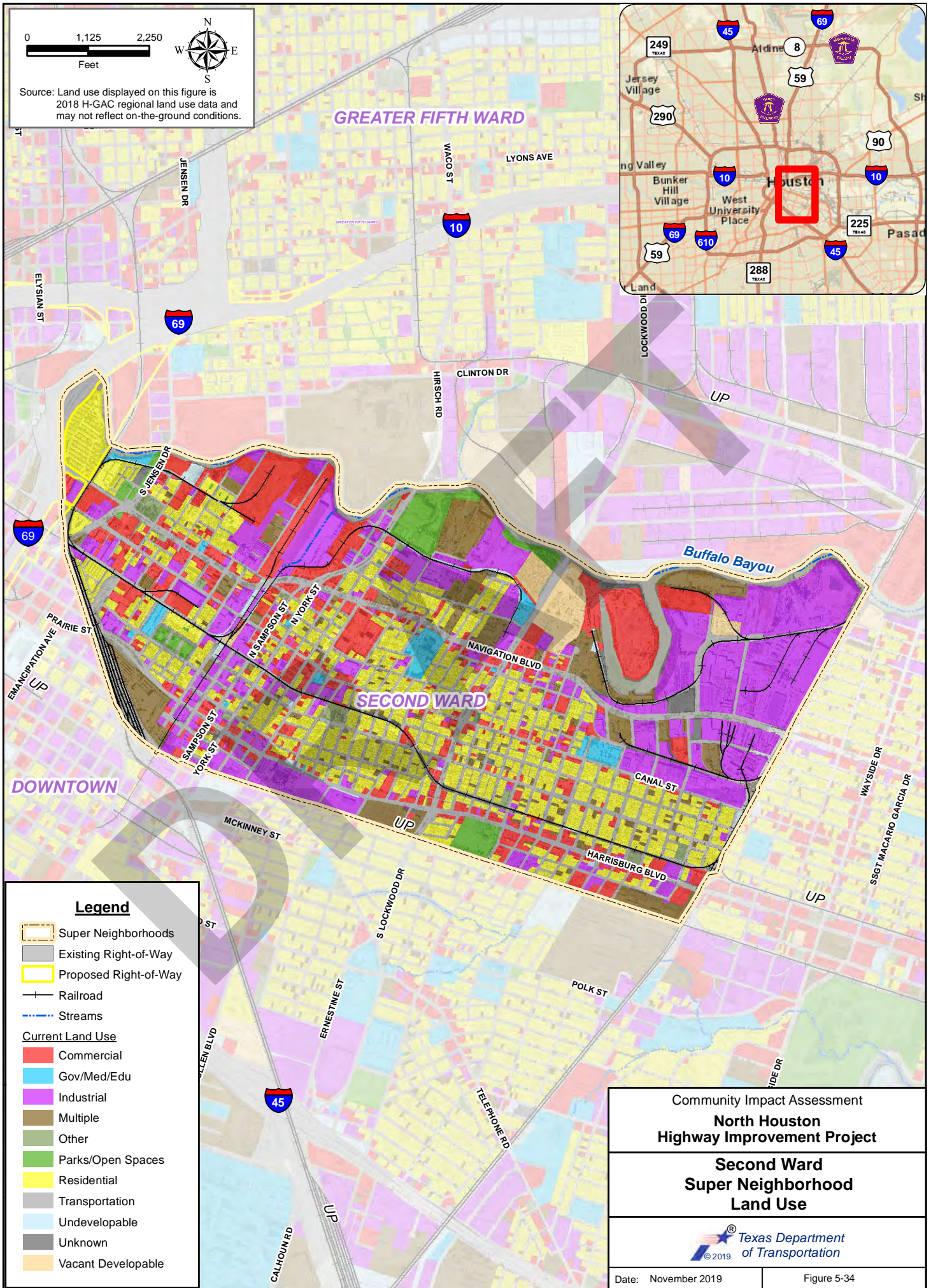
8 ***Land Use and Community Facilities:***

9 The neighborhood is a mix of residential (single- and multi-family) surrounded by large-scale
10 industrial properties, with commercial development along Navigation Boulevard and
11 Harrisburg Street.

12 The large industrial land uses are primarily located in the northern portion of the Second Ward
13 along Buffalo Bayou. The residential neighborhoods contain mostly older residential
14 properties built before World War II. According to the City of Houston, the largest block of
15 post-war housing is the Clayton Homes public housing project on the community's western
16 edge. Additionally, due to the area's proximity to Downtown, several restaurants have
17 developed and become popular in the area in recent years (City of Houston 2017a).

18 Community facilities include the historic Our Lady of Guadalupe Church (2405 Navigation
19 Boulevard), Houston Community College Southeast – Felix Fraga Academic Campus (301
20 North Drennan Street), and Guadalupe Plaza Park (2311 Runnels Street). See also
21 Figure 5-34 for land use in this super neighborhood.

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1 *Future Vision and Goals:*

2 A central portion of the Second Ward super neighborhood is involved in the Fifth Ward/Buffalo
3 Bayou/East End Livable Centers Planning Study. The study area of which is defined by Lyons
4 Avenue to the north, Capitol Street (south of Harrisburg Boulevard) to the south, Lockwood
5 Avenue to the east, and Waco, Bringham, Hirsh and York Streets to the west. The study, which
6 was completed in 2015, involved community members throughout the planning process and
7 identified primary stakeholders who would be responsible for implementation of the plan,
8 including the Fifth Ward TIRZ 18 and Fifth Ward Community Redevelopment Corporation,
9 Greater East End Management District, and the Buffalo Bayou Partnership. This
10 “Implementation Task Force” was established as a result of the Livable Centers planning
11 process. The plan encourages the Implementation Task Force to cooperate with other
12 stakeholders and community organizations, and the City of Houston to facilitate the
13 discussion and implementation of community goals. The goals include preserving affordable
14 housing through community land trusts, creating a linear park along the Harrisburg Sunset
15 trail, and improving pedestrian, bikeway and street network connectivity (H-GAC 2015).

16 As of November 2018, approximately \$18 million was allocated to projects listed in the Fifth
17 Ward/Buffalo Bayou/East End Livable Centers Planning Study, some of which have already
18 been completed. For projects that are planned/programmed, \$27 million is needed for
19 implementation. The Second Ward plans to continue to implement streetscape
20 improvements, market recent park improvements, and leverage future FTA and Precinct 1
21 improvements. The implementation of the study is 53 percent complete (H-GAC 2019a).

22 Additionally, the western portion of the Second Ward super neighborhood is involved in the
23 East End Livable Centers Planning Study. The study area is defined by Harrisburg Boulevard
24 to the south, US 59/I-69 to the west, Clinton Drive to the north, and Hirsch Road to the east.
25 The study, which was completed in 2009, focused in part on improving pedestrian and transit
26 access in the area. A variety of alternative designs received public input through five
27 stakeholder advisory committee meetings and three general public open houses (H-GAC
28 2009).

29 As of November 2018, investment was leveraged from the Light Rail (Green Line) to
30 implement sidewalk improvements, hike-and-bike improvements, and pedestrian
31 esplanades listed in the East End Livable Center Planning Study. Approximately \$28.7 million
32 has been allocated to these projects. For projects that are planned/programmed, \$20 million
33 is needed for implementation. The Second Ward plans to support future Livable Center
34 Studies and partnerships and continue streetscape and intersection improvements. It was the
35 program’s first study and the implementation of the study is 83 percent complete (H-GAC
36 2019a).

37 The Second Ward super neighborhood is a state-designated Opportunity Zone, which is a new
38 community development program established by Congress in the Tax Cuts and Jobs Act of
39 2017 to encourage long-term investments in low-income urban and rural communities.

1 Second Ward has approximately 15,000 residents and the area's population has declined by
2 five percent over the last fifteen years.

3 A Complete Communities Action Plan was developed for the Second Ward super neighborhood
4 in July 2018. The goals were developed by the residents of the Second Ward community in
5 conjunction with a Neighborhood Support Team of local leaders within the community.

6 Economy and Jobs Goals:

- 7 ▪ Build on Destinations
- 8 ▪ Expand Jobs and Opportunities

9 Housing:

- 10 ▪ Build New Housing
- 11 ▪ Preserve Existing Housing

12 Mobility and Infrastructure:

- 13 ▪ Enhance Rail Safety
- 14 ▪ Create Beautiful Streets
- 15 ▪ Promote Walkability
- 16 ▪ Improve Public Transit Amenities
- 17 ▪ Secure a Flood Resilient Community
- 18 ▪ Expand Bike Lanes and Amenities

19 Effects on Community Cohesion

20 Numerous displacements would be required in the Second Ward.

- 21 ▪ 4 businesses
- 22 ▪ 296 multi-family units (Clayton Homes)

23 The four potentially displaced businesses include a gas station and restaurants. All 296
24 potentially displaced multi-family units in Second Ward are part of a low-income housing
25 development Clayton Homes (see Sections 5.1.2.3 and 5.8.3.2). Tenants living in apartments
26 could be relocated to another multi-family residential complex. Residential displacements
27 attributed to the proposed project would account for less than one percent of the total housing
28 units in east Downtown, Second Ward, and Greater Third Ward.

29 The Second Ward super neighborhood is located east of Downtown and US 59/I-69 and south
30 of the Greater Fifth Ward. The community cohesion effects will be felt in the western portion
31 of the Second Ward super neighborhood. The residents of the Clayton Homes low-income
32 housing community would be relocated. For more detailed information on Clayton Homes, see
33 Section 5.1.2.3. Additionally, the right-of-way of the highway would move closer to the Canal
34 Place apartment complex, the Marquis Downtown Houston Lofts apartment complex, and
35 other multi-family communities along Runnels Street and Ann Street. However, these
36 residents would also be provided with access to central Downtown. The bridges over

1 US 59/I-69 at Commerce Street, as well as the highway “cap” over the proposed depressed
2 lanes of US 59/I-69 at Commerce Street could improve connectivity in the area and between
3 the Second Ward and central Downtown.

4 Clayton Homes, which is part of the limited affordable housing supply for extremely
5 low-income populations, would be displaced by the proposed project. HHA lacks the housing
6 supply necessary to meet the current demand for public housing units.

7 Currently, Houston is facing population growth; many people are moving to the area and more
8 are expected in the future. The region is also facing an affordable housing shortage; many
9 affordable and public housing developments have been affected by Hurricane Harvey, and
10 the remaining affordable housing stock is too sparse to meet the growing demand. Repairs
11 and rebuilding efforts for housing in Houston are still ongoing, but these efforts are running
12 months behind the pace of other comparable disaster recovery work, such as in New York
13 after the 2012 Super Storm Sandy and in Baton Rouge after the flooding in 2016. There is
14 still a significant need for repairs, reconstruction, and more affordable housing (particularly
15 for renters and low-income families).

16 The City of Houston and other planning entities have designed strategies to address these
17 trends of population growth and affordable housing decline. The *Second Ward Complete*
18 *Communities Plan* identifies the need for affordable housing and advocates for the
19 construction of additional affordable residential units downtown to support the current and
20 future population growth the area is experiencing and will continue to experience. Additionally,
21 several organizations are committed to developing housing and improving quality of life for
22 citizens in vulnerable communities. Affordable housing stakeholders in the Houston area are
23 currently focusing on rebuilding the affordable housing stock in response to Hurricane Harvey
24 in a way that aligns with the city’s goals for sustainable, walkable, complete communities.

25 The risk is that demand for affordable housing is high already and the proposed project
26 increases that demand (although it also addresses supply as discussed in the mitigation
27 section).

28 In response to these direct impacts, TxDOT will facilitate the relocations and provide
29 assistance with allocating adequate replacement housing, subsidized or unsubsidized, in
30 accordance with federal regulations. Additionally, TxDOT is coordinating with HHA for advance
31 acquisition of the Clayton Homes property. See Section 5.1.2.3.4.1 for a discussion of the
32 mitigation commitments related to Clayton Homes.

33 TxDOT met with representatives of the Greater East End Management District to present the
34 proposed project and solicit input on potential impacts. The management district and
35 residents in east Downtown and East End are concerned about losing access to central
36 Downtown, specifically access to Downtown via Polk Street. The configuration of the proposed
37 design would create the opportunity for improved connectivity in the area of the depressed
38 section of the freeway between east Downtown and central Downtown, as there would be
39 additional street connections.

5.2.3.5 Greater Third Ward

Greater Third Ward super neighborhood is located southeast of the I-45 and US 59/I-69 interchange. Its boundaries are generally I-45 to the north, US 59/I-69 to the west, Wentworth Street and Blodgett Street to the south, and Spur 5 to the east. See Figure 5-36 location/boundaries of the Greater Third Ward super neighborhood.

History:

The Third Ward originally developed as a Jewish neighborhood in the 1850s but became predominantly African-American in the 1920s as Jewish residents moved out of the neighborhood and African-American residents relocated to the area from the Fourth Ward. Three historic districts within the boundaries of Houston's Third Ward were determined eligible for listing in the NRHP.

Current Demographics of the Super Neighborhood:

The Greater Third Ward super neighborhood is a historically and culturally significant African American neighborhood. The demographic composition is mostly Non-Hispanic Black (61.4 percent), Non-Hispanic White (17.4 percent), and Hispanic (14.2 percent) as shown in Figure 5-35 (U.S. Census Bureau 2010).

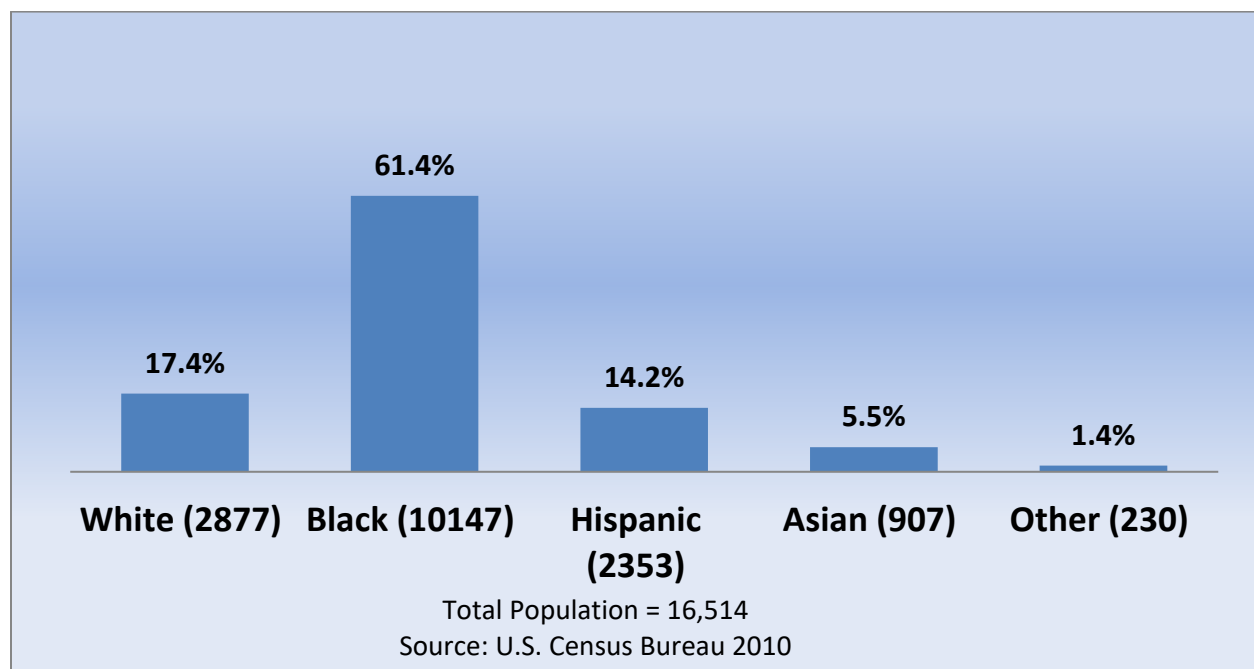
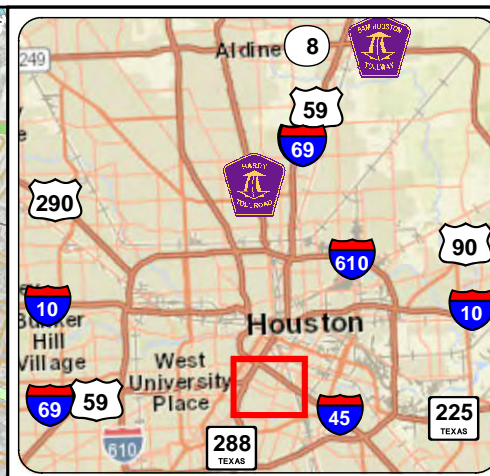
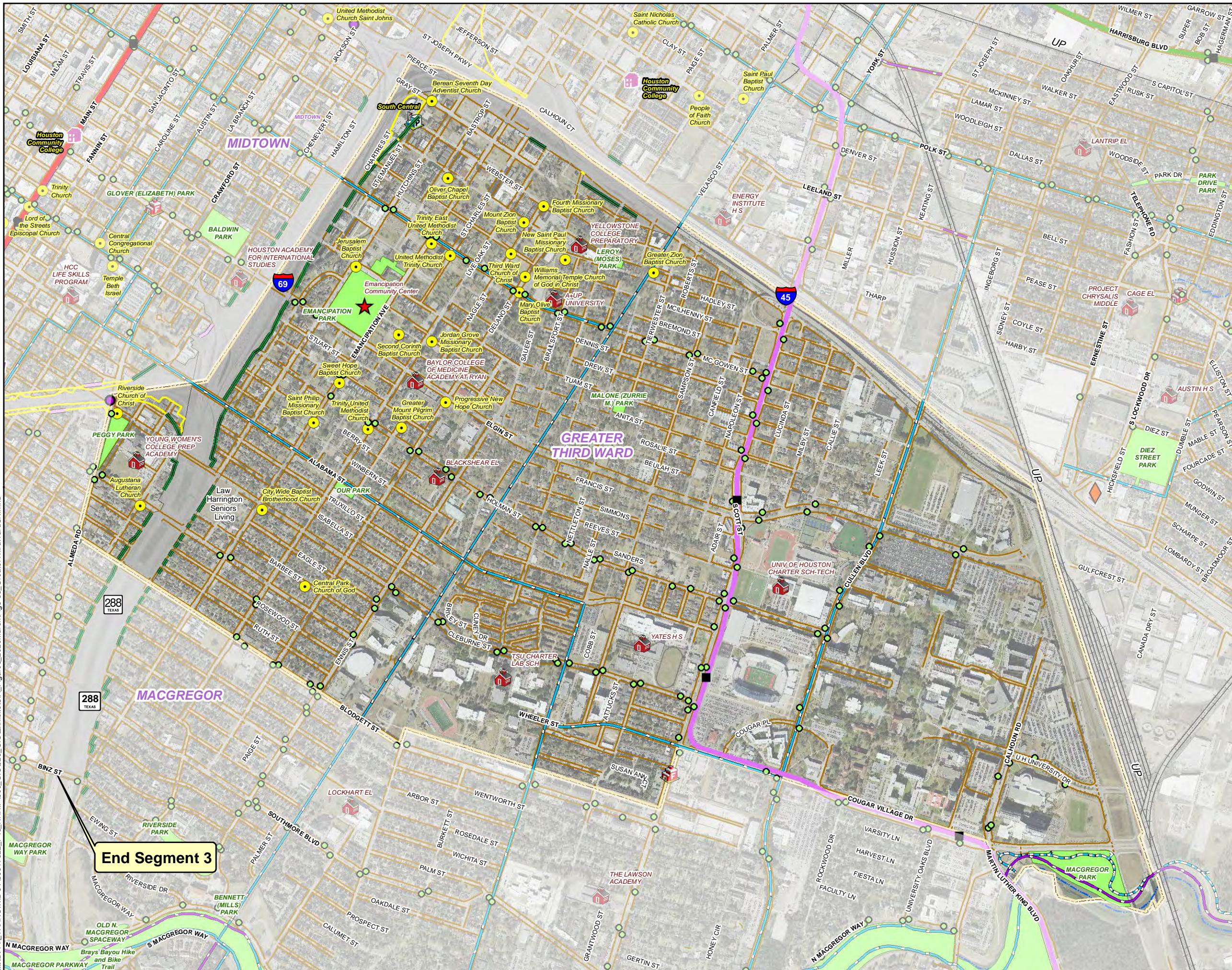


Figure 5-35: Greater Third Ward Super Neighborhood Land Percent Population by Race



Index Map

Legend

- Super Neighborhoods
- Existing Right-of-Way
- Proposed Right-of-Way
- Railroad
- Streams
- HGAC Sidewalks Preliminary
- Existing Bikeways
- Proposed Bikeways
- Green Line
- Purple Line
- Red Line
- METRO Rail Stations
- METRO Bus Stop
- Displaced Bus Stops
- METRO Park & Ride
- METRO Transit Centers
- Aesthetic Walls
- Proposed Noise Barriers
- University/College
- School
- Cemetery
- Place of Worship
- Police Station
- Fire Station
- Community Centers
- Shelter
- Park



0 600 1,200
Feet

Community Impact Assessment North Houston Highway Improvement Project

Greater Third Ward Super Neighborhood



Land Use and Community Facilities:

The majority of the super neighborhood is single-family residential properties. Texas Southern University and University of Houston are located in the southeastern portion of the community. There are a few commercial properties along Elgin Street, Scott Street, and Emancipation Avenue. Several places of worship are located throughout the neighborhood.

The neighborhood has several civic groups, community development corporations, and nonprofit organizations that support the revitalization of the neighborhood and preservation of the community's institutions. These organizations include the Emancipation Park Conservancy, The Emancipation Economic Development Council, the Greater Southeast Management District "Houston Southeast", and the Old Spanish Trail/Almeda TIRZ. The Greater Third Ward participated in the City of Houston's Complete Communities Study and published their Complete Communities Action Plan in May 2018. See Figure 5-37 for land use in this super neighborhood.

Future Vision and Goals:

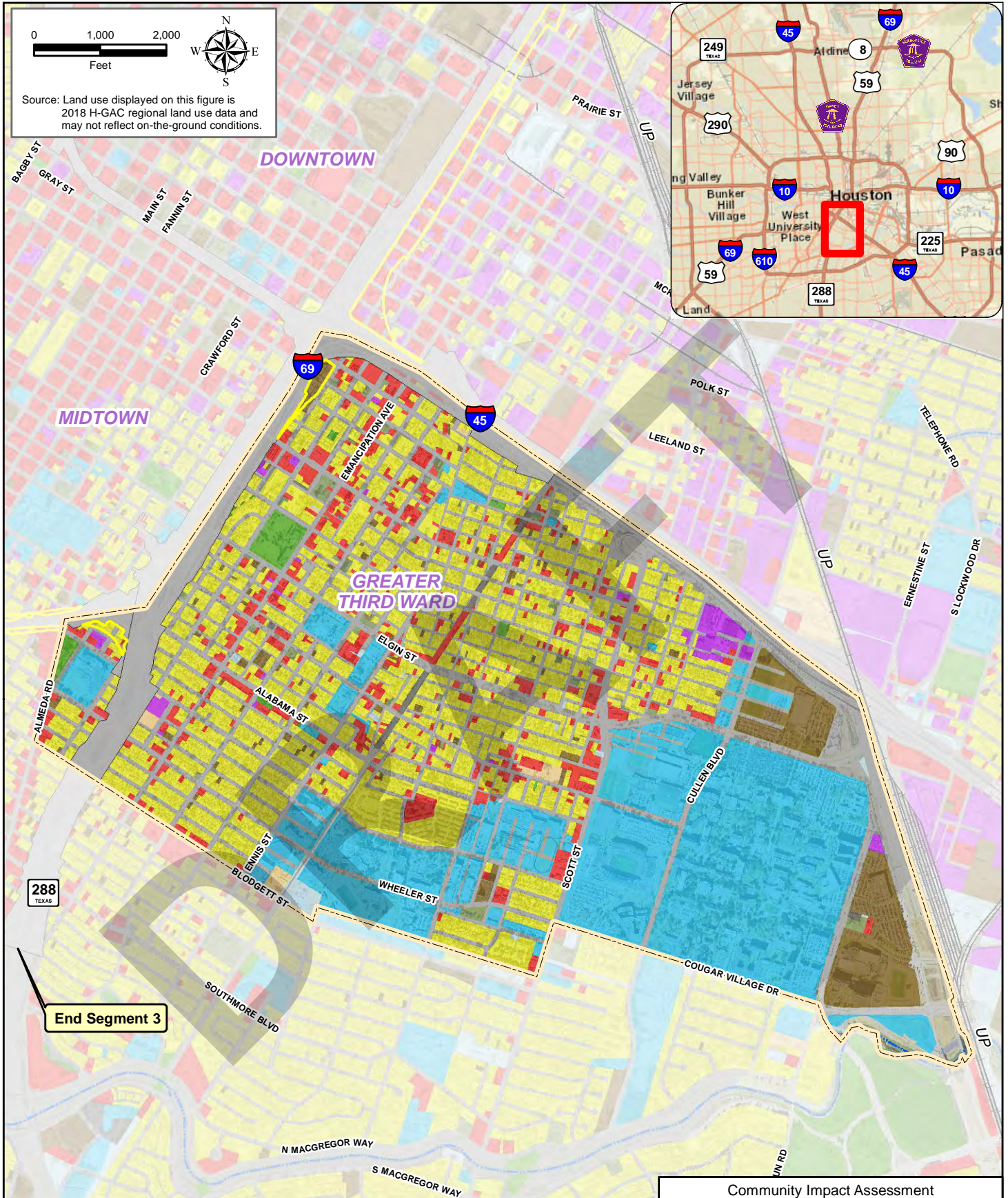
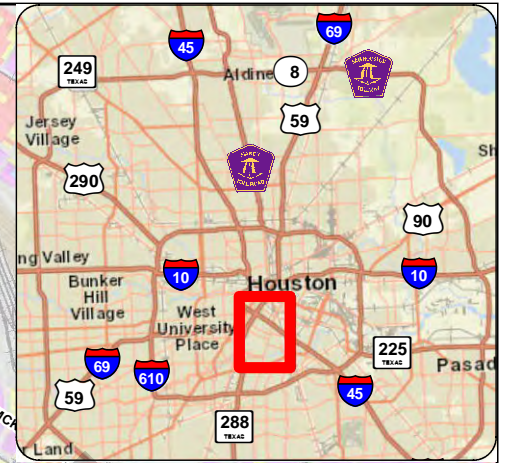
The Greater Third Ward super neighborhood is involved in the Complete Communities initiative with the City of Houston. The Complete Communities initiative involved a six-month planning process to engage the community and stakeholders to identify and guide the vision, policies, goals and projects for the Action Plan. The following are a selection of priority projects from the Action Plan.

- Attract a job training facility to the neighborhood (in progress)
- Build new affordable single-family housing
- Build new affordable rental housing
- Improve sidewalks and crossings
- Improve area streets
- Expand area bike lanes and facilities
- Improve right-of-way and drainage
- Create green infrastructure at neighborhood sites prone to flooding
- Cultural Trail
- Build a new park in the University Village neighborhood
- Advocate for additional SPARK Parks in the community, particularly at Blackshear Elementary School and Baylor College of Medicine Academy at Ryan
- Create pocket parks along Emancipation Avenue
- Develop environmental graphics or interactive signage for Emancipation Park to advertise park programs and special events
- Improve existing parks, Leroy, Malone and Our Park (City of Houston 2018b)

0 1,000 2,000
Feet



Source: Land use displayed on this figure is 2018 H-GAC regional land use data and may not reflect on-the-ground conditions.



End Segment 3

Legend

- | | | |
|-----------------------|-------------------------|--------------------|
| Super Neighborhoods | <u>Current Land Use</u> | Parks/Open Spaces |
| Existing Right-of-Way | Commercial | Residential |
| Proposed Right-of-Way | Gov/Med/Edu | Transportation |
| Railroad | Industrial | Undevelopable |
| Streams | Multiple | Unknown |
| | Other | Vacant Developable |

Community Impact Assessment North Houston Highway Improvement Project

Greater Third Ward Super Neighborhood Land Use



Date: November 2019

Figure 5-37

1 A Complete Communities Action Plan was developed for the Third Ward super neighborhood
2 in July 2018. The following is a brief summary of the goals that were developed by the
3 residents of the Third Ward community in conjunction with a Neighborhood Support Team,
4 which is comprised of local leaders within the community.

5 *Economy and Jobs Goals:*

- 6 ▪ Grow the Local Economy
- 7 ▪ Support Small Businesses
- 8 ▪ Expand Local Opportunities for Employment

9 *Housing Goals:*

- 10 ▪ Build Housing for All
- 11 ▪ Provide Protection from Displacement
- 12 ▪ Repair and Preserve Existing Housing
- 13 ▪ Plan for Future Housing

14 *Mobility and Infrastructure Goals:*

- 15 ▪ Improve Neighborhood Mobility
- 16 ▪ Build Great Streets.
- 17 ▪ Expand Bike Lanes and Facilities
- 18 ▪ Protect from Flooding

19 *Effects on Community Cohesion*

20 Displacements that would occur in Greater Third Ward:

- 21 ▪ 6 single-family residences
- 22 ▪ 64 multi-family units
- 23 ▪ 1 other facility (City of Houston Police Station)

24 The proposed right-of-way of the Preferred Alternative would displace six single-family
25 residences in Greater Third Ward. Potentially displaced multi-family units in the Greater Third
26 Ward are smaller apartment complexes located south of the US 59/I-69 and SH 288
27 interchange. Tenants living in these apartments could be relocated to another multi-family
28 residential complex. Residential displacements attributed to the proposed project would
29 account for less than one percent of the total housing units in the Greater Third Ward.

30 In the Greater Third Ward super neighborhood, the Preferred Alternative would parallel the
31 northern and western boundaries of the neighborhood. TxDOT has developed a continuous
32 frontage road system along SH 288 using the existing Hutchings Street alignment which would
33 minimize cut-through traffic in adjacent neighborhoods. After merging with the SH 288
34 northbound Elgin Street exit ramp, the proposed frontage road would connect to the proposed
35 US 59/I-69 NB frontage road, using the existing Chartres Street alignment. These
36 improvements would impact the northern corner of the super neighborhood.

TxDOT attended the Greater Third Ward Complete Community meeting and addressed questions about the proposed project components.

5.2.3.6 Midtown

The Midtown super neighborhood is located south of Downtown. Its boundaries are I-45 to the north, US 59/I-69 to the east and south, and generally Spur 527/Bagby Street to the west. See Figure 5-39 location/boundaries of the Midtown super neighborhood.

History:

Midtown originally developed as a planned residential neighborhood in the late nineteenth century. The neighborhood experienced a decline in the middle of the twentieth century as high-income residents left the area for other neighborhoods. The area became a mix of old homes, small apartment buildings and low-rise commercial buildings. A Vietnamese community grew in the neighborhood in the 1970s and 1980s. Spurred by the Midtown TIRZ, luxury apartment/townhome construction has begun in the western edge of the community and in areas close to Baldwin Park (Midtown Super Neighborhood 2019).

Current Demographics of the Super Neighborhood:

The demographic composition of Midtown is mostly Non-Hispanic White (60.3 percent) and Non-Hispanic Black (15.9 percent) as shown in Figure 5-38 (U.S. Census Bureau 2010).

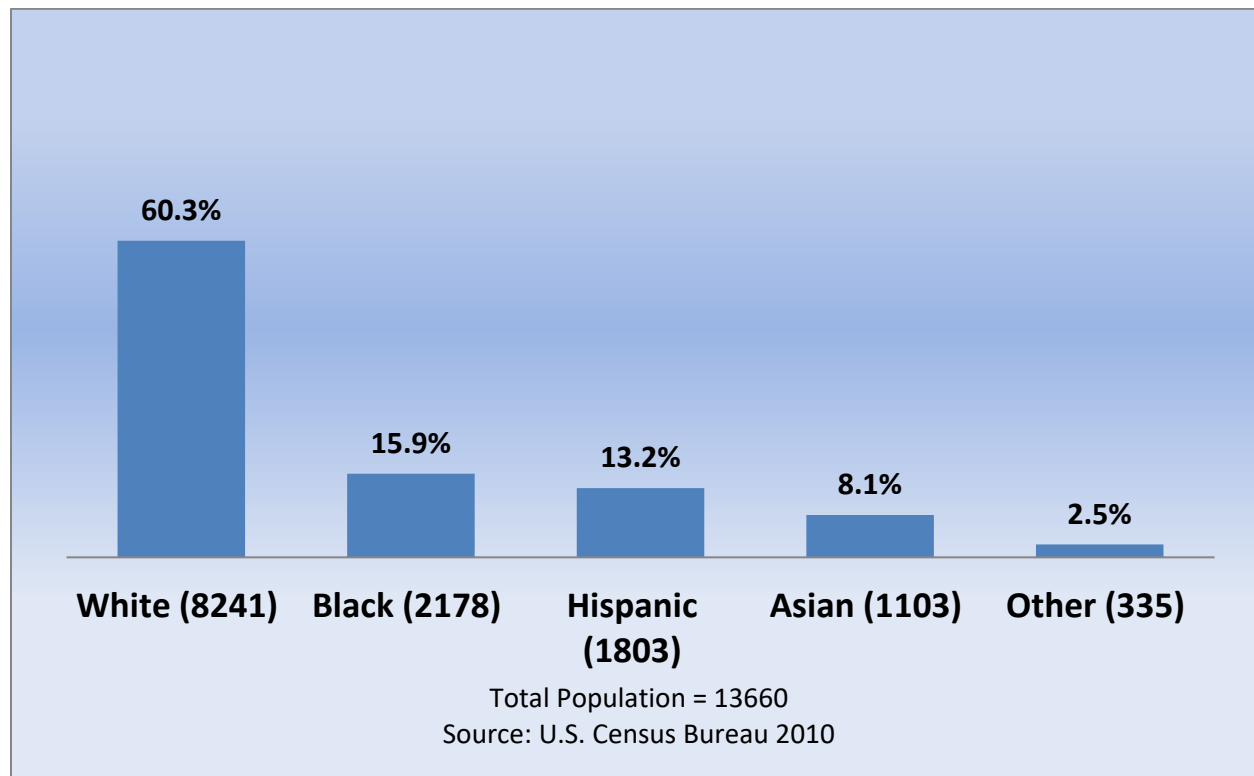
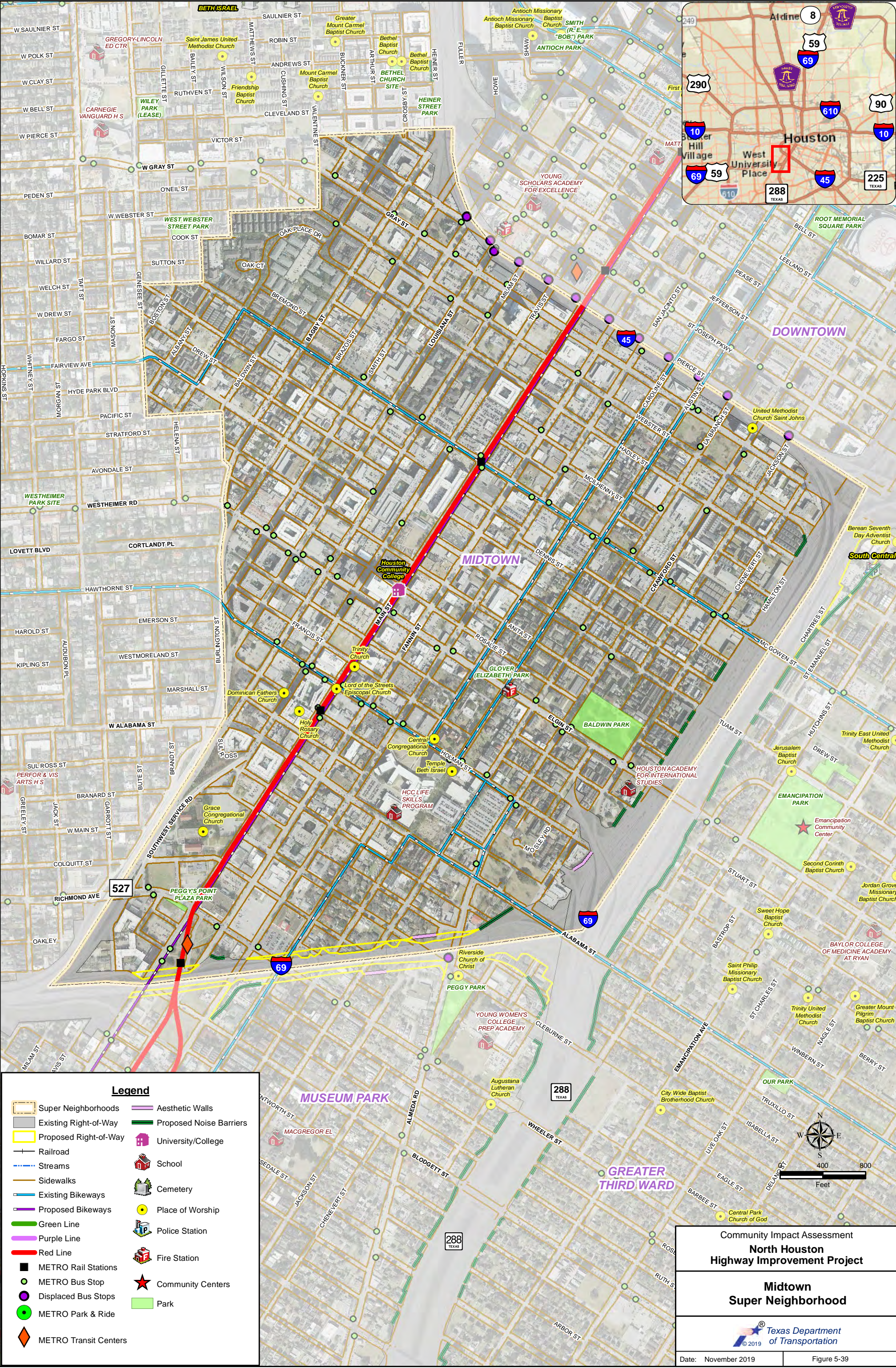


Figure 5-38: Midtown Super Neighborhood Percent Population by Race



1 *Land Use and Community Facilities:*

2 The Midtown super neighborhood consists of a mix of older single-family residences,
3 multi-family residential units, commercial development, office buildings, and public and
4 institutional properties.

5 Several local interest groups support community interest and promote economic development
6 throughout the super neighborhood. These include the Midtown Redevelopment Authority,
7 Midtown Management District, and the Midtown Parks Conservancy. See Figure 5-40 for land
8 use in this super neighborhood.

9 *Future Vision and Goals:*

10 The Midtown super neighborhood has its own Super Neighborhood Council, which consists of
11 Midtown property owners who are committed to representing the interests of Midtown
12 residents and stakeholders and improving the quality of life in the super neighborhood. The
13 Council is guided by the following mission:

14 Midtown Super Neighborhood represents Midtown citizens who seek
15 collaborative activism between constituents and City officials to improve the
16 quality of life in Midtown. The super neighborhood's vision states: We desire
17 representation of Midtown constituents in partnership with the Midtown
18 Management District (MMD), the Midtown Redevelopment Authority (MRA) and
19 the City of Houston to create a vibrant, walkable and livable community that is
20 safe.

21 The Council has also identified areas of concern for the super neighborhood, including public
22 safety, homelessness, public infrastructure and maintenance, and healthy cohabitation with
23 social service organizations (Midtown Super Neighborhood 2019).

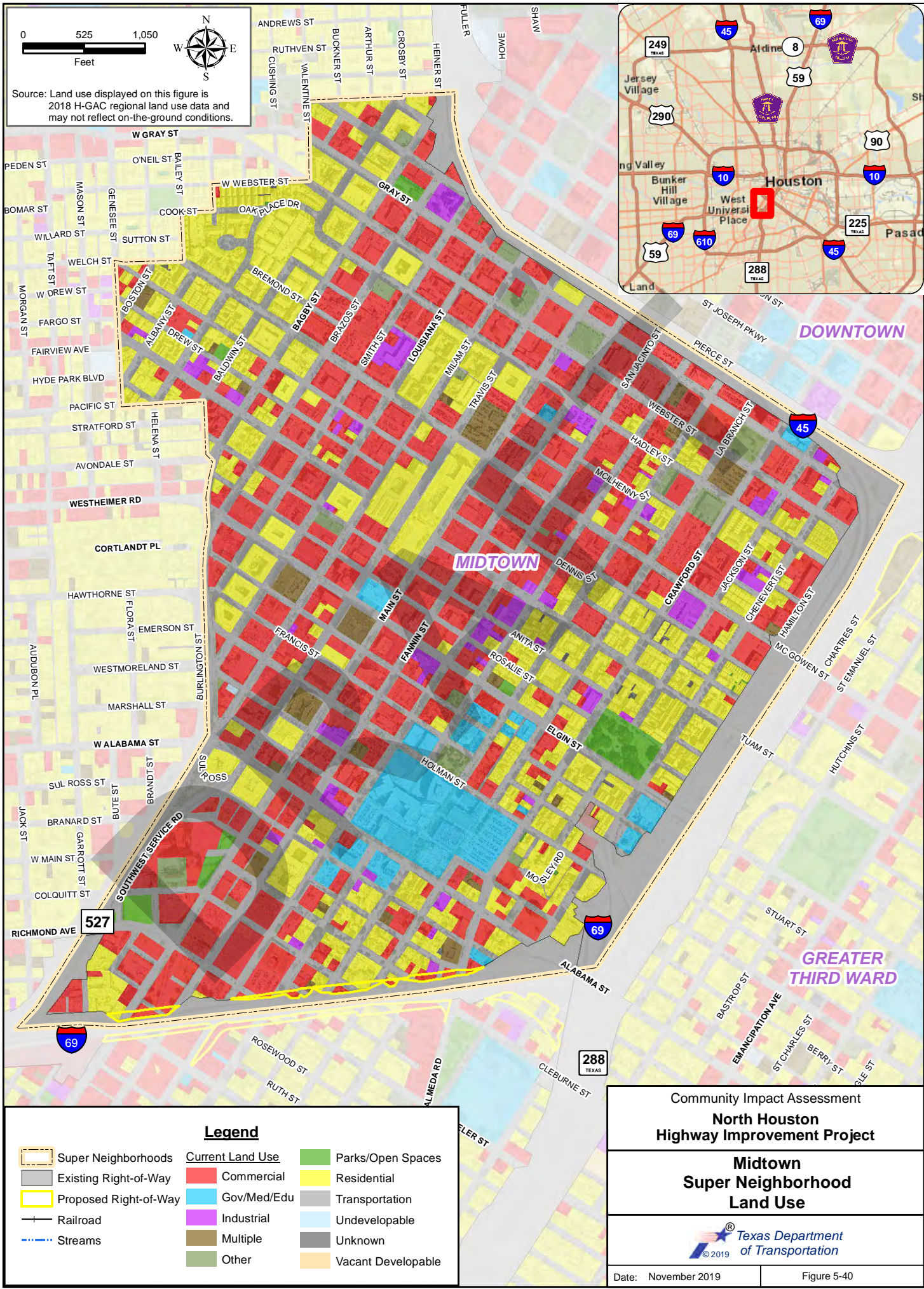
24 Additionally, a central portion of the Midtown super neighborhood is included in the Midtown
25 Livable Centers Planning Study. The study area is centered around the Ensemble/Houston
26 Community College light rail station in Midtown. The study, which was completed in 2010,
27 identifies three primary “districts”—the Design, Arts, and College districts—and recommends
28 priority projects and major street improvements to connect the districts to each other and
29 improve quality of life in the community (H-GAC 2010b).

30 As of November 2018, approximately \$23.4 million has been allocated to built/invested
31 projects. For projects that are planned/programmed, \$32 million is needed. The group plans
32 to continue implementation of signage, wayfinding, and public art, and finalize the off-street
33 parking ordinance request with the City of Houston. The implementation of the study is 59
34 percent complete (H-GAC 2019a).

35 The majority of the community centers, schools, and parks are in the southern portion of the
36 super neighborhood. Bagby Park (415 Gray Street) and Midtown Park (2811 Travis Street) are
37 managed by the Midtown Parks Conservancy. Baldwin Park (1701 Elgin Street) is a historic
38 park and is undergoing improvements based on plans by the Midtown Management District.

- 1 The Houston Community College – Central Campus (1300 Holman Street) spans several
- 2 blocks and has multiple buildings in the southern portion of the super neighborhood.

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Effects on Community Cohesion

Numerous displacements would occur in the Midtown super neighborhood.

- 4 commercial businesses and 1 parking business
- 5 single-family residences
- 60 multi-family units (Midtown Terrace Suites)

The Preferred Alternative's proposed right-of-way would displace five single-family residences in Midtown. All 60 potentially displaced multi-family units in Midtown are part of a low-income housing development Midtown Terrace Suites (see Section 5.8.3.2). Residential displacements attributed to the proposed project would account for less than one percent of the total housing units in Midtown. In addition, four commercial businesses and one parking business would be displaced.

I-45 forms the western and southern boundaries of the Downtown loop and is known locally as the Pierce Elevated. The existing elevated I-45 roadway along the west and south sides of Downtown (Pierce Elevated) would be removed. The I-45 Pierce Elevated creates a visual barrier that separates Midtown from the Central Downtown Business District. Its removal of the Pierce Elevated, between approximately Brazos Street and US 59/I-69, would eliminate a visual barrier between the Downtown and Midtown communities, and the proposed street-level boulevard would enhance connectivity between these communities.

The portion of I-45 (Pierce Elevated) between Brazos Street and US 59/I-69 that is no longer needed by TxDOT for a transportation use could be redeveloped by others to include open space and multimodal connections. TxDOT surplus property is advertised and sold directly to eligible Texas entities (other Texas state agencies, political subdivisions, and approved nonprofit assistance organizations) or is auctioned online to the general public if eligible entities do not request it during the advertisement period. Proposed use of the surplus land and/or elevated structure by others would require separate development and funding by others. A future use of the property is not proposed by TxDOT or evaluated in the Final EIS. TxDOT will coordinate with COH regarding disposition of that portion of the Pierce Elevated.

The Preferred Alternative's proposed right-of-way of the Preferred Alternative would not displace or affect access to other community facilities or local services in Midtown.

In the Midtown super neighborhood, the Preferred Alternative footprint would impact the northern, eastern, and southern boundaries of the neighborhood. Individuals and families physically affected by the project are those who reside in the 5 single-family residential and 60 multi-family units that are considered potential displacements.

The communities residing in Downtown and Midtown adjacent to the Pierce Elevated (portion of I-45 between Brazos and US 59/I-69) would no longer be separated by a visual barrier resulting from the removal of the Pierce Elevated. The proposed street-level boulevard would enhance the connectivity between these communities. Future redevelopment by others of this space could include open space and multimodal connections.

1 TxDOT met with representatives of the City of Houston, the Downtown Management District,
2 the Midtown Redevelopment Authority, and representatives of the Midtown super
3 neighborhood to present the proposed project and solicit input on potential impacts to
4 community resources, design revisions to improve connectivity and access into Downtown,
5 and city street connections.

6 Per public input at the May 2017 public meeting, TxDOT revised the proposed right-of-way of
7 the Preferred Alternative to avoid acquiring right-of-way from the Houston Academy for
8 International Studies and adjacent “SPARK” park located on the west side of US 59/I-69 in
9 Midtown.

10 The S.H.A.P.E. Community Center, located northeast of the Almeda Road and US 59/I-69
11 intersection, serves the African-American community in Houston. During the initial alternatives
12 analysis evaluation, TxDOT modified the project design to avoid displacement of the S.H.A.P.E.
13 Community Center.

14 In response to public meeting comments, TxDOT is going to add a continuous US 59/I-69
15 southbound frontage road that would extend from proposed Hamilton Street frontage Road
16 to La Branch Street. This would provide a continuous frontage road system which would
17 minimize cut-through traffic in adjacent neighborhoods along the eastern edge of the super
18 neighborhood.

19 Midtown residents opposed design plans to direct the SH 288 managed lanes into Midtown
20 and Downtown via Chenevert Street. The proposed SH 288 managed lanes exit ramps were
21 to be adjacent to the Houston Academy for International Studies and Baldwin Park, and the
22 proposed right-of-way would have affected parking at a small condominium complex. TxDOT
23 modified the schematic so Chenevert Street would be maintained as a one-way southbound
24 street between Stuart Street and Holman Street. Local street connectivity at Francis Street
25 would also be maintained.

26 No additional mitigation measures are proposed that are specifically linked to community
27 cohesion impacts.

28 *5.2.3.7 Fourth Ward*

29 The Fourth Ward super neighborhood is located west of Downtown and north of Midtown. Its
30 boundaries are Buffalo Bayou to the north, I-45 to the east, Cleveland Street, Webster Street,
31 Dennis Street, and Welch Street to the south, and Taft Street to the west. See Figure 5-41
32 location/boundaries of the Fourth Ward super neighborhood.



History:

The Fourth Ward was originally established in 1839 and is one of Houston's most important historic African American neighborhoods. Throughout the late nineteenth and early twentieth centuries the Fourth Ward was the economic, cultural, and intellectual center of Houston's African American community. Although Houston's Black population was dispersed in pockets throughout the city, the Fourth Ward was home to a considerable amount of important African American churches, schools, professional organizations, and other institutions. The historic community of Freedmen's Town is an important historic and cultural district within the Fourth Ward and many structures in this super neighborhood are listed on the NRHP.

Current Demographics of the Super Neighborhood:

The community is undergoing redevelopment, and today the population of the historically African American neighborhood is composed of mostly Non-Hispanic White (51.0 percent), Hispanic (19.9 percent), and Non-Hispanic Black (19.1 percent) as shown in Figure 5-42 (U.S. Census Bureau 2010).

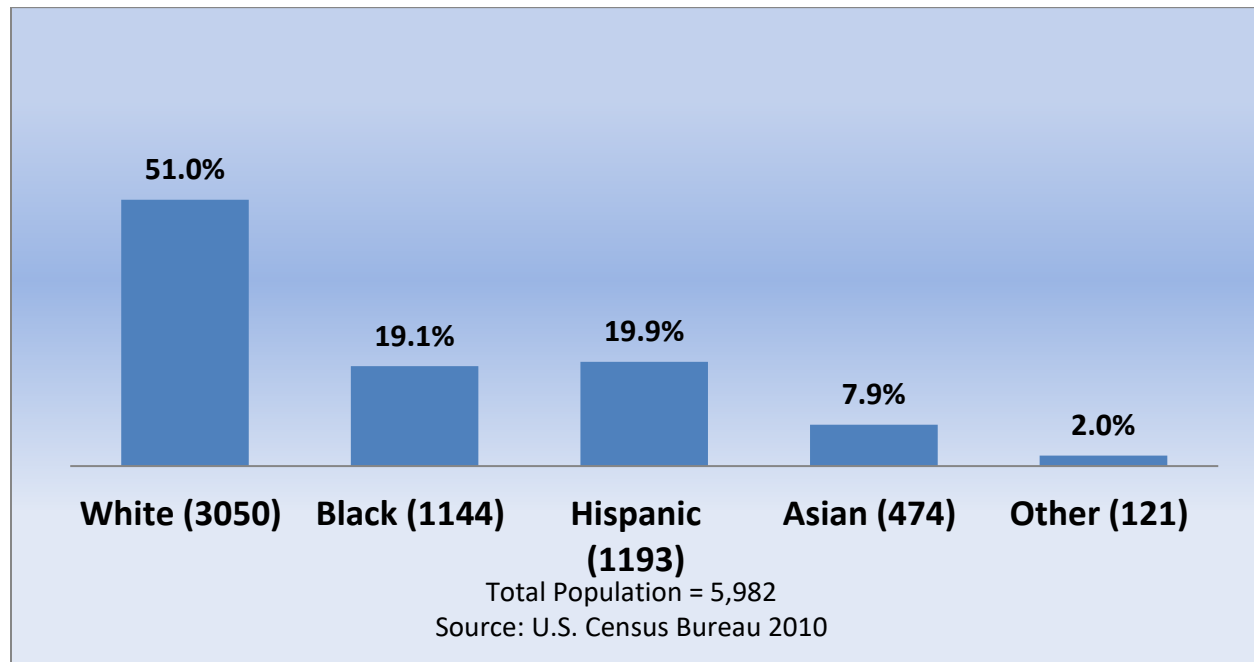


Figure 5-42: Fourth Ward Super Neighborhood Percent Population by Race

Land Use and Community facilities:

The neighborhood consists predominantly of single-family homes, apartments and townhomes. The Gregory-Lincoln Education Center and the Carnegie Vanguard High School are located in the western portion of the community.

Several parks, schools, community centers, and historical sites are located throughout Fourth Ward. Community facilities in Fourth Ward include the Bethel Church Park (801 Andrews Street), Buffalo Bayou Park (1800 Allen Parkway), Carnegie Vanguard High School (1501 Taft Street), Boys and Girls Club of Greater Houston (815 Crosby Street), Founders Memorial

Cemetery (1217 West Dallas Street), and The African American Library at the Gregory School (1300 Victor Street). See Figure 5-43 for land use in this super neighborhood.

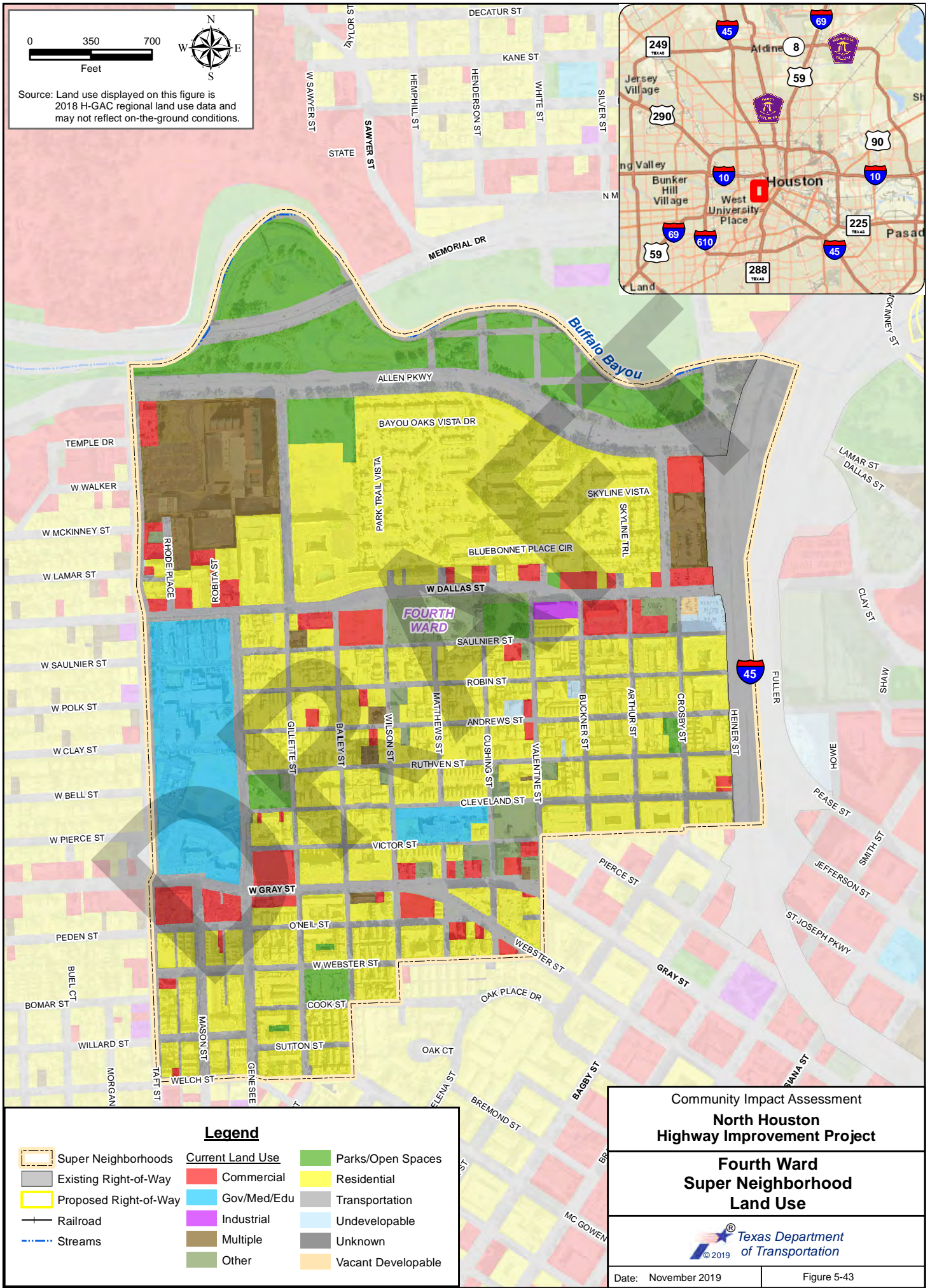
Future Vision and Goals:

A southern portion of the Fourth Ward super neighborhood is involved in the Fourth Ward Livable Centers Planning Study. The study area is defined by Allen Parkway, Heiner Street, Dennis Street, and Taft Street. Completed in 2010 in partnership with the Fourth Ward Redevelopment Authority and the City of Houston, the study presents recommendations that were guided by a series of focus groups. The study analyzes the existing conditions in five areas: community issues; historic preservation; affordable housing; open space; and (5) infrastructure. The following are a selection of opportunities the study discovered from the analysis.

- Include a walking track for seniors
- Restore brick streets
- Create pedestrian connections across large parcels (HISD and Allen Parkway Village)
- Create gateways to neighborhoods
- Utilize the African-American Library as a launching point for cultural tourism related to the Fourth Ward/Freedmen's Town
- Collaborate with community development corporations (CDCs), the City of Houston Housing Authority, the City of Housing and Community Development Department, and other low-income service providers
- Define affordable housing by the income of the neighborhood's historic residents
- Improved access to water, properly functioning sewer service, storm water collection, and streets that minimize the clutter of overhead utilities.

The study concludes with a Preferred Alternatives section, which details the physical improvements (streets, parks, etc.) and features a master project list of 45 projects to be completed to achieve the vision and goals for the area (H-GAC 2010c).

As of November 2018, approximately \$8.9 million has been allocated to built/invested projects. The plan is to implement street and sidewalk improvements in 2019, develop a parking management district, and support the formation of a management district. The implementation of this study is 15 percent complete (H-GAC 2019a).



Effects on Community Cohesion

No residential displacements or impacts on community facilities are anticipated for this super neighborhood. The Preferred Alternative proposed right-of-way would not create a new barrier that would divide Fourth Ward or isolate this super neighborhood from adjacent communities.

The I-45 direct connectors to Downtown would be depressed between West Dallas Street and Andrews Street, and at-grade crossings would be added over the proposed depressed direct connectors at Andrews Street for bike/pedestrian access from the Fourth Ward to Downtown. Depressing the direct connectors would improve the overall viewshed between Dallas Street and Andrews Street. TxDOT will also accommodate pedestrian/bicycle access within the project limits between Andrews Street and St. Joseph Parkway, on the west side of the Downtown connectors. Heiner Street, which runs parallel to I-45 on the west of Downtown in the Fourth Ward, would be realigned to accommodate a trail to connect Midtown and Fourth Ward to Buffalo Bayou.

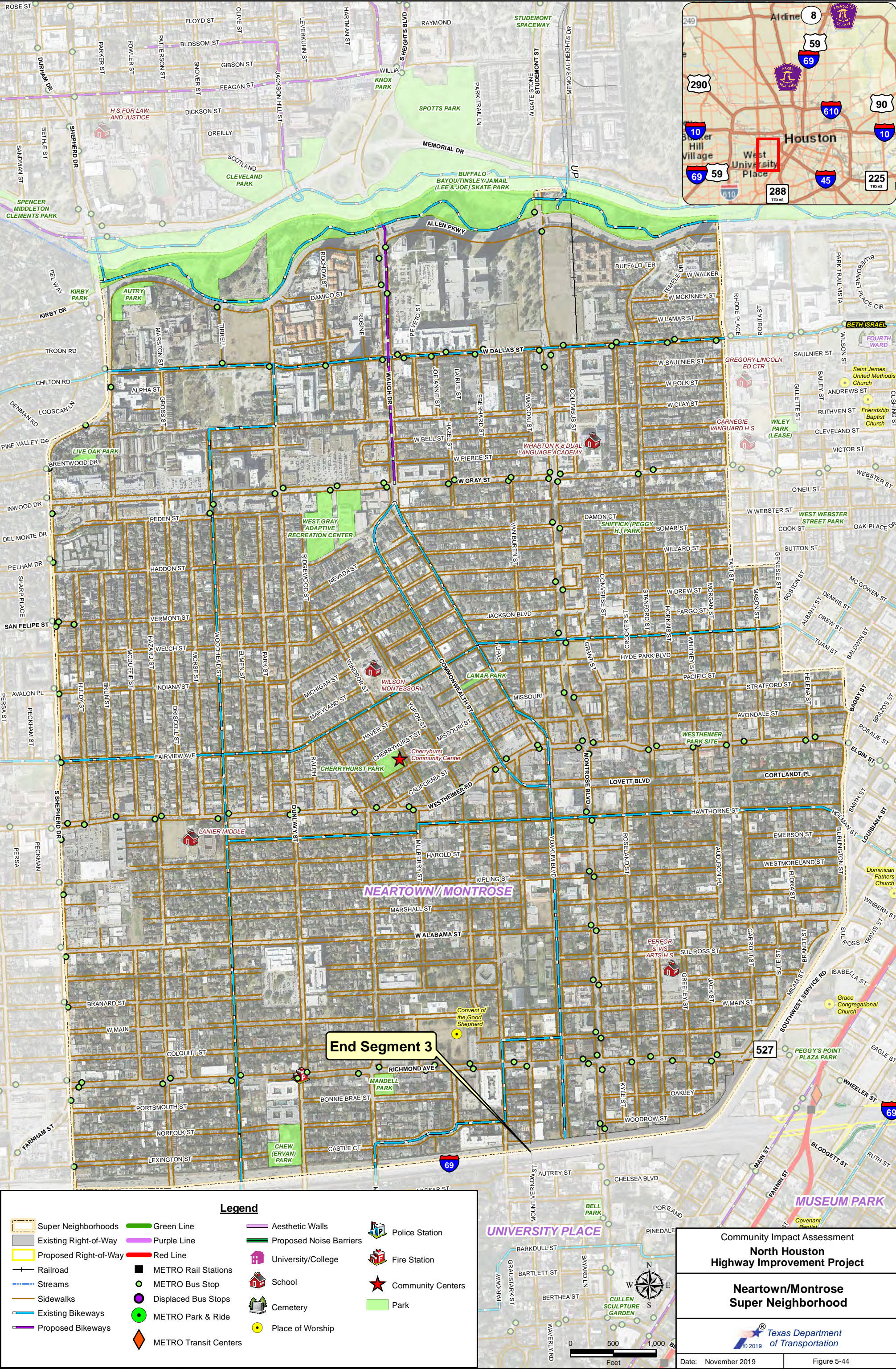
The Fourth Ward is located west of Downtown and north of Midtown. Individuals living and commuting from the Fourth Ward would experience improved access to and from Downtown. Pedestrians and bicyclists would also experience improved access within the project limits between Andrews Street and St. Joseph Parkway, on the west side of the Downtown connectors. The proposed trail that would run parallel to I-45 along Heiner Street (connecting Midtown and Fourth Ward to Buffalo Bayou) would be an improvement for the general super neighborhood and other pedestrians/bicyclists.

The design plans presented at the May 2017 public hearing and in the Draft EIS included elevated I-45 direct connectors on the west side of Downtown. The Fourth Ward community and the I-45 Coalition expressed concerns that the elevated roadways would create a visual barrier between the Fourth Ward and Downtown. In response to public comments, TxDOT revised the design plans after the 2017 public hearing.

No mitigation measures are proposed that are specifically linked to community cohesion impacts. Mitigation measures have been presented to improve the bike/pedestrian access between the Fourth Ward super neighborhood and Downtown and are detailed in Table 6-1, Table 6-2 and Table 6-3.

5.2.3.8 Neartown/Montrose

Nearthown/Montrose is located west of Midtown, between Buffalo Bayou and US 59/I-69. Its boundaries are US 59/I-69 to the south, Allen Parkway to the north, Taft Street, Bagby Street and Main Street to the east, and South Shepherd Drive to the west. See Figure 5-44 location/boundaries of the Neartown/Montrose super neighborhood.



History:

Neartown/Montrose was developed in the early twentieth century as a residential area with its own streetcar line. In the 1960s, the area experienced an influx of bohemian residents attracted by the area's inexpensive cost of living. Montrose was the hub of Houston's gay community for the latter half of the twentieth century and hosted the city's Pride Parade until 2014. Today, the neighborhood is experiencing significant development and a rising cost of living (Guillen 2016).

Current Demographics of the Super Neighborhood:

The demographic composition of Neartown/Montrose is mostly Non-Hispanic White (72.0 percent) and Hispanic (13.5 percent) as shown in Figure 5-45 (U.S. Census Bureau 2010).

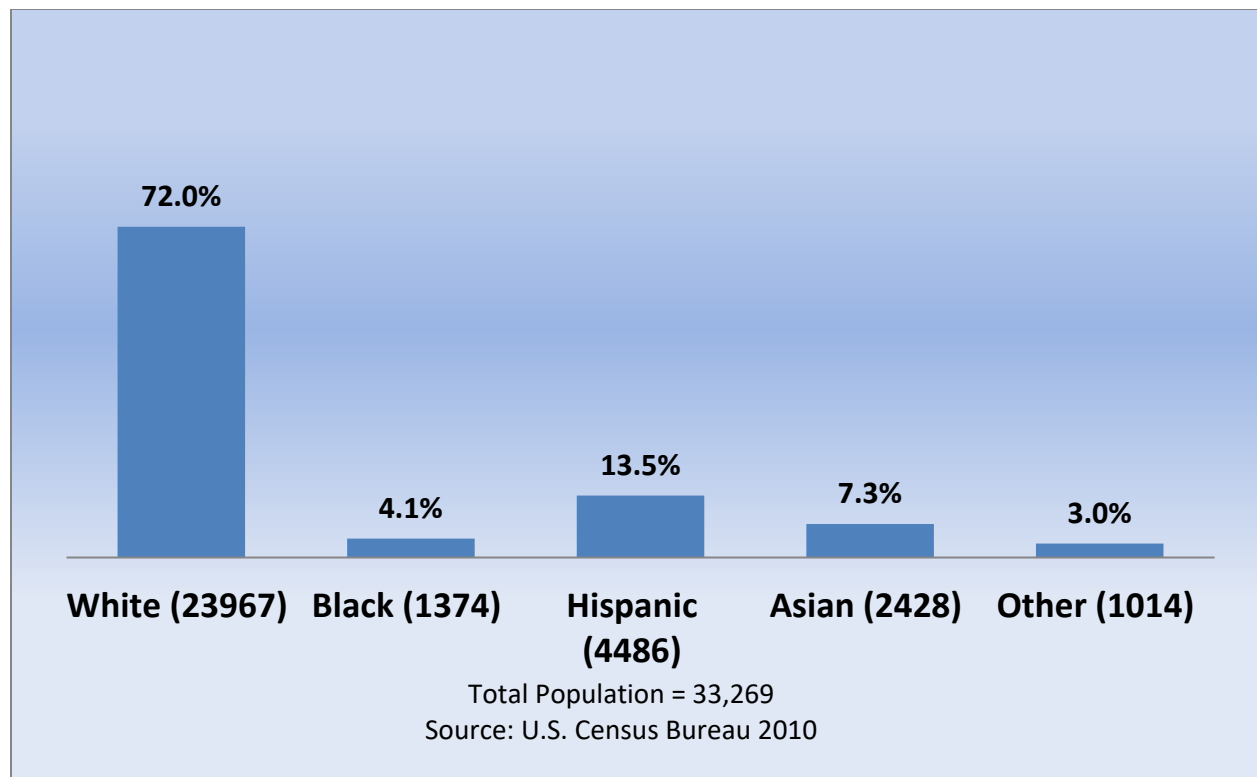
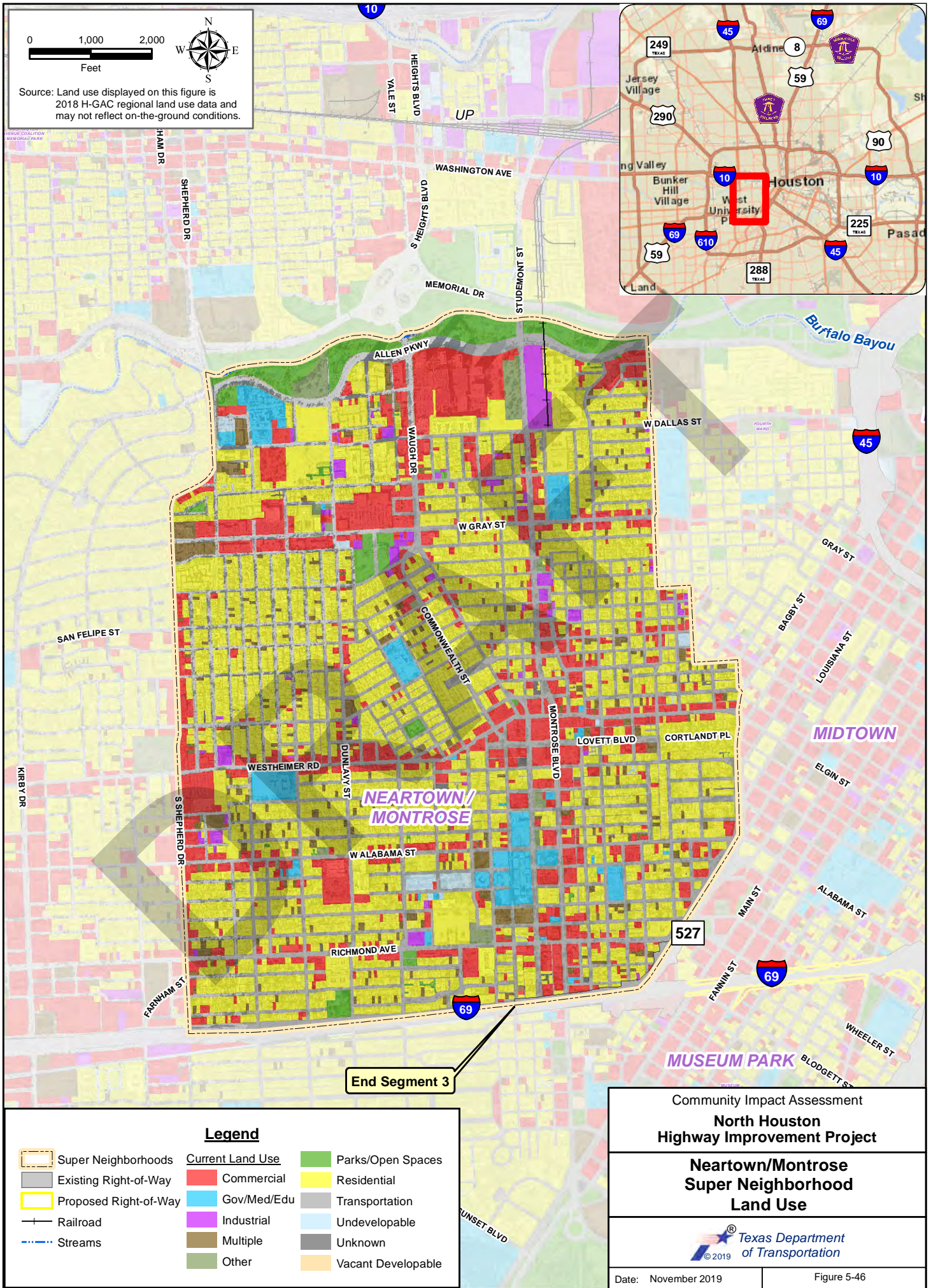


Figure 5-45: Neartown/Montrose Super Neighborhood Percent Population by Race

Land Use and Community Facilities:

The neighborhood consists mostly of single-family residential properties with commercial development along major streets such as Westheimer Road, Montrose Boulevard, and Shepherd Drive.

Several schools and places of worship are located within the residential areas of the super neighborhood. Other community facilities include the Metropolitan Multi-Service Center (1475 West Gray Street), Mandell Park (4399 Mandell Street), and Hyde Park's pocket park, Lamar Park (1419 Hyde Park Boulevard). See Figure 5-46 for land use in this super neighborhood.



Future Vision and Goals:

The Neartown Association acts as the Super Neighborhood Council, which convenes to discuss issues of concern for the community, agree upon desired actions, and other activities regarding the super neighborhood. The Neartown Association has been in operation for over 40 years as an umbrella organization whose membership includes over 20 civic associations in the Montrose area. According to their website, “the Neartown Association seeks to nurture [the community’s] vitality while also enhancing quality of life amidst the pressures of increasing density and change.” (Neartown Association 2019)

Effects on Community Cohesion

No displacements or impacts on community facilities are anticipated for this super neighborhood. Neartown/Montrose is located west of Midtown. The Preferred Alternative proposed right-of-way would not create a new barrier that would divide or isolate Neartown/Montrose from adjacent communities. The Preferred Alternative proposed right-of-way would not displace residences or community facilities in Neartown/Montrose and would not affect access to community facilities or local services.

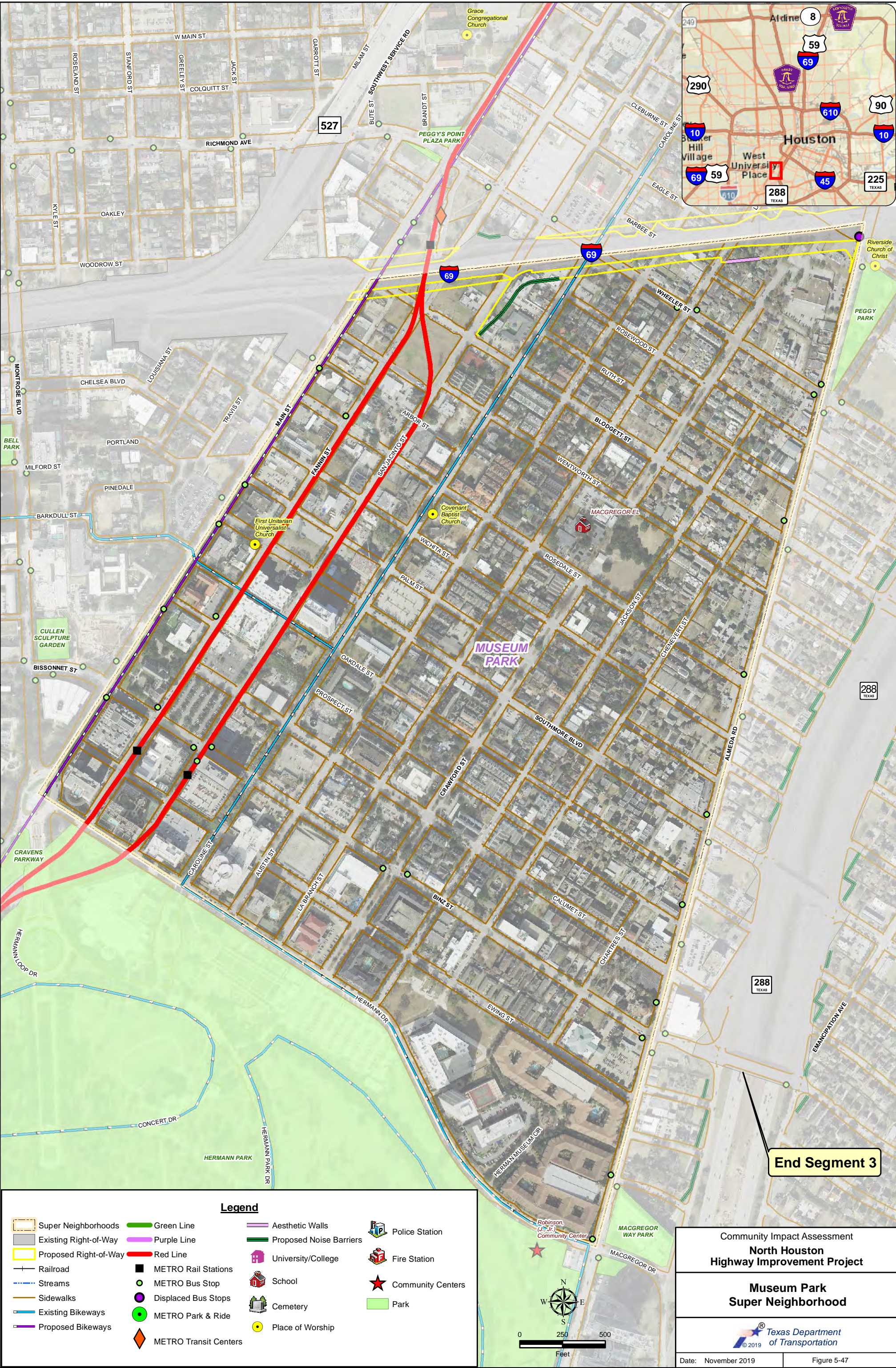
Because the Preferred Alternative would not divide or isolate the super neighborhood from adjacent communities, there is no affect or risk related to community cohesion for this particular super neighborhood. No mitigation measures are proposed that are specifically linked to community cohesion impacts.

5.2.3.9 Museum Park

The Museum Park super neighborhood is located south of Downtown and US 59/I-69 between Main Street and SH 288. Its boundaries are US 59/I-69 to the north, SH 288 to the east, Hermann Park to the south, and Main Street to the west. See Figure 5-47 for the location and boundaries of the Second Ward super neighborhood.

History:

Before it was known as Museum Park, the neighborhood was called Binz and was a part of the Third Ward political district. The neighborhood began as a “fancy Houston suburb” and that history can be seen in the Clayton House, and a few other original houses of the grand Houston boulevards. The neighborhood’s block pattern and its tight grid of streets continues the downtown grid to Hermann Park. The construction of SH 288 in the 1970s dramatically altered Third Ward by severing street connections and removing the continuous grid of city blocks. In addition to physically separating the east Third Ward from the west, north-south commuters would now bypass the area with limited ways to enter into the area. Also, before the 1990s, a lack of water and sewer infrastructure and the lapsing of the deed restrictions created a 60-year hiatus of development that deterred most construction in the area. The neighborhood was re-named in 2010. The “Museum Park” name and brand captured the cultural influence of the galleries and institutions in proximity to the neighborhood, as well as the importance of the adjacent Hermann Park (H-GAC 2016).



Current Demographics of the Super Neighborhood:

The demographic composition of Museum Park is mostly Non-Hispanic White (50.9 percent), Hispanic (19.4 percent), Non-Hispanic Asian (13.9 percent), and Non-Hispanic Black (11.9 percent) as shown in Figure 5-48 (U.S. Census Bureau 2010).

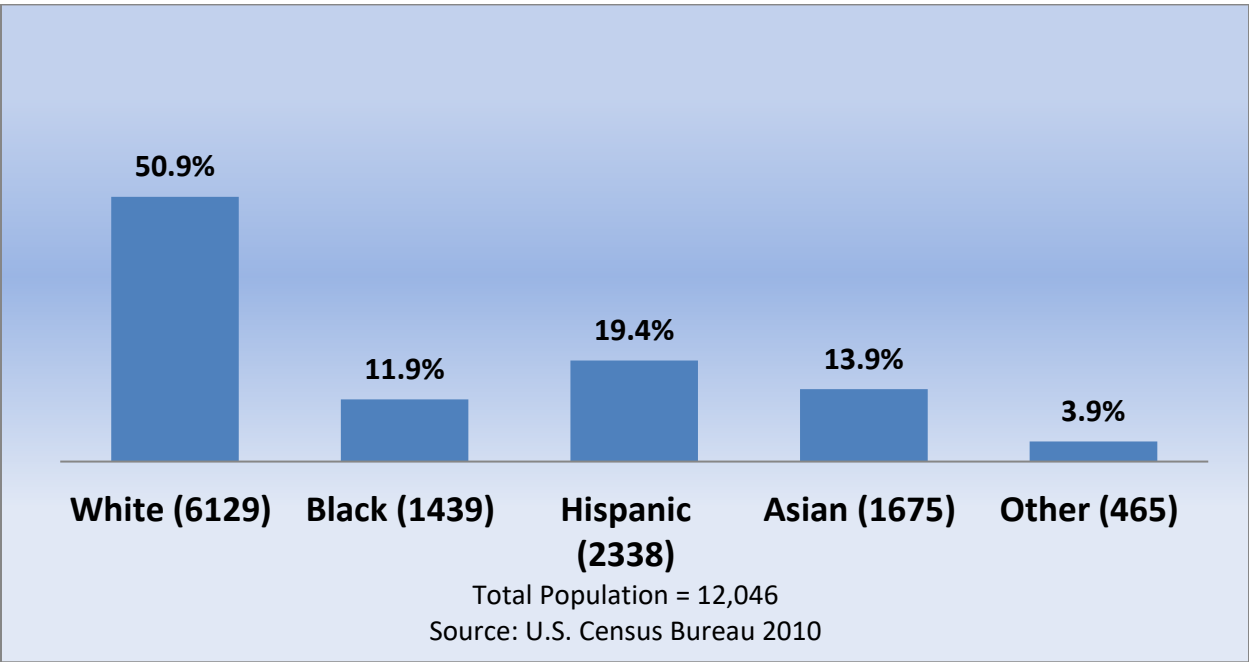
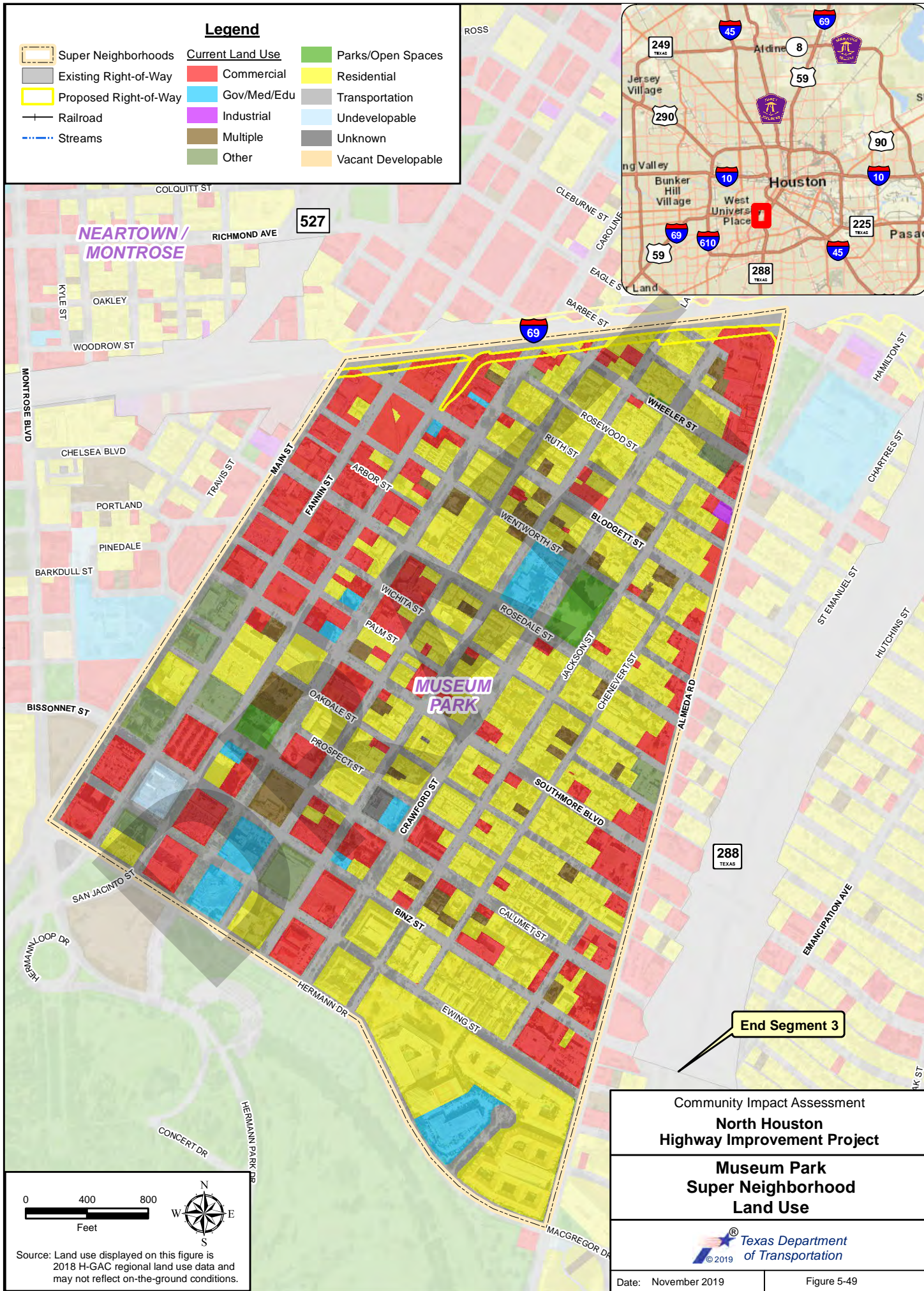


Figure 5-48: Museum Park Super Neighborhood Percent Population by Race

Land Use and Community Facilities:

The community is a mix of single-family homes, multi-family units, public institutions, and commercial properties. Commercial development is concentrated on the east and west borders of the super neighborhood. Museum Park is most notable for its 13 museums and cultural institutions. Several schools and places of worship are located throughout the Museum Park neighborhood. See Figure 5-49 for land use in this super neighborhood.



1 *Future Vision and Goals:*

2 The Museum Park super neighborhood has its own Super Neighborhood Council, which acts
3 as a representative body of the community. It brings many community entities to the Table to
4 discuss community issues and major projects and includes the as Greater Southeast
5 Management District, OST/Almeda TIRZ, Hermann Park Conservancy, Museum District
6 Association, South Main Alliance, hospitals, schools, churches, businesses and residents.

7 The super neighborhood's stated mission includes the following:

- 8 ▪ Establishing the Museum District as a top cultural destination with a strong sense of
9 neighborhood identity.
- 10 ▪ Collaborating strategically with all entities in Museum Park to develop a beautiful and
11 recognizable premier cultural, educational, and mixed-use district that is the most
12 pedestrian friendly district in the City of Houston.
- 13 ▪ Furthering education through the beneficial use of public lands and natural resources
14 in collaboration with the City, state, and cultural institutions.
- 15 ▪ Improving health and health education through development of a measurably
16 transformed and healthier urban environment using infrastructure and landscaping,
17 a living laboratory, that can be easily implemented in other settings.
- 18 ▪ Promotion of safety, security, and well-being within the Neighborhood (Museum Park
19 Super Neighborhood 2019).

20 Additionally, the Museum Park super neighborhood is involved in the Museum Park Livable
21 Centers Planning Study. The study area includes all of the super neighborhood area. The
22 study, which was completed in 2016, assesses the needs of the community, presents
23 recommendations, and an Implementation Plan for the recommendations. The
24 Implementation Plan was considered and agreed upon by the stakeholders and the Museum
25 Park community through a robust "YouR Museum Park" public engagement campaign. The
26 following are a selection of the study recommendations.

- 27 ▪ Designate an east-west walking/biking trail that connects the Museum of Fine Arts
28 campus with Hermann Park and the Almeda Corridor via the Museum Park
29 neighborhood.
- 30 ▪ Connect educational, cultural institutions, and places of worship from Houston
31 Community College to Hermann Park with an enhanced pedestrian realm, beneficial
32 landscaping and unique placemaking via north/south promenade on Caroline Street.
- 33 ▪ Develop plans for the Wheeler Transit Center node as a transit-oriented development
34 (T.O.D.) site, with a cover, or cap, over the US 59/I-69 future depressed freeway
35 Section extending from Main Street past Caroline Street. The program is to include
36 high density mixed-use, residential, and a park amenity on the cap.
- 37 ▪ Create enhanced entries into the neighborhood at Southmore Boulevard and Almeda
38 Road, and at Southmore Boulevard and Main Street.

- Beautify and improve safety of the US 59/I-69 underpass at the important intersection with the Alameda Road commercial spine, creating a greater gateway to the historic Third Ward from Midtown.
- Develop a custom placemaking program with functional art that highlights pedestrian loops/routes through the neighborhood (H-GAC 2016).

As of November 2018, approximately \$5,000 was allocated to projects listed in the Museum Park Livable Center Planning Study, some of which have been completed. For projects that are planned/programmed, \$275,000 is needed for implementation. Museum Park plans to establish a parking management district, develop standard that promote “beneficial landscaping”, and complete the Caroline Promenade Cultural spine design. The implementation of the study is 16 percent complete (H-GAC 2019a).

TxDOT met with the Museum Park Super Neighborhood Council, the Greater Southeast Management District, and the Old Spanish Trail/Alameda Corridors Redevelopment Authority to present the proposed project and solicit input on potential impacts.

Effects on Community Cohesion

Displacements would be required in the northern portion of the Museum Park super neighborhood and include five businesses, 10 single-family residences, six multi-family units, and the Mexican Consulate.

The displaced businesses and residences are located along the US 59/I-69 corridor. Potential impacts to Museum Park associated with the proposed project would be attributed to displacements, changes in access across US 59/I-69 to Downtown, and increased traffic noise near residential areas. In response to these direct impacts, TxDOT will facilitate the relocations and provide assistance with allocating adequate replacement housing in accordance with federal regulations.

The Preferred Alternative proposed right-of-way would not create a new barrier that would divide Museum Park or isolate this neighborhood from adjacent communities.

US 59/I-69 would be depressed between SH 288 and Spur 527. Main Street, Fannin Street, San Jacinto Street, Caroline Street, Wheeler Avenue, Austin Street, La Branch Street, and Alameda Road would bridge over US 59/I-69.

Additionally, the widening of US 59/I-69 and displacement of businesses along the highway in the Museum Park super neighborhood would shift the right-of-way of the highway closer to the residential communities to the south. However, depressing the roadway would eliminate a visual barrier between Museum Park and Midtown, reduce traffic noise, and improve access and connectivity between the Museum Park and Midtown communities. Overall, community cohesion effects would be limited.

Compared to other neighborhoods in the project area, Museum Park is not considered an environmental justice community of concern. No community facilities would be displaced. The potential for adverse impacts to community cohesion is relatively low.

1 Residents in Museum Park expressed concern about the elimination of the landscaped
2 esplanade on Caroline Street and pedestrian access to the Wheeler Transit Station and
3 Downtown.

4 Museum Park super neighborhood is represented by the South Main Alliance. TxDOT met with
5 representatives of the South Main Alliance to present the proposed project components and
6 solicit input on potential impacts. The South Main Alliance requested that Caroline Street
7 remain as a boulevard across US 59/I-69 and that the San Jacinto Street entrance ramp to
8 US 59/I-69 remain.

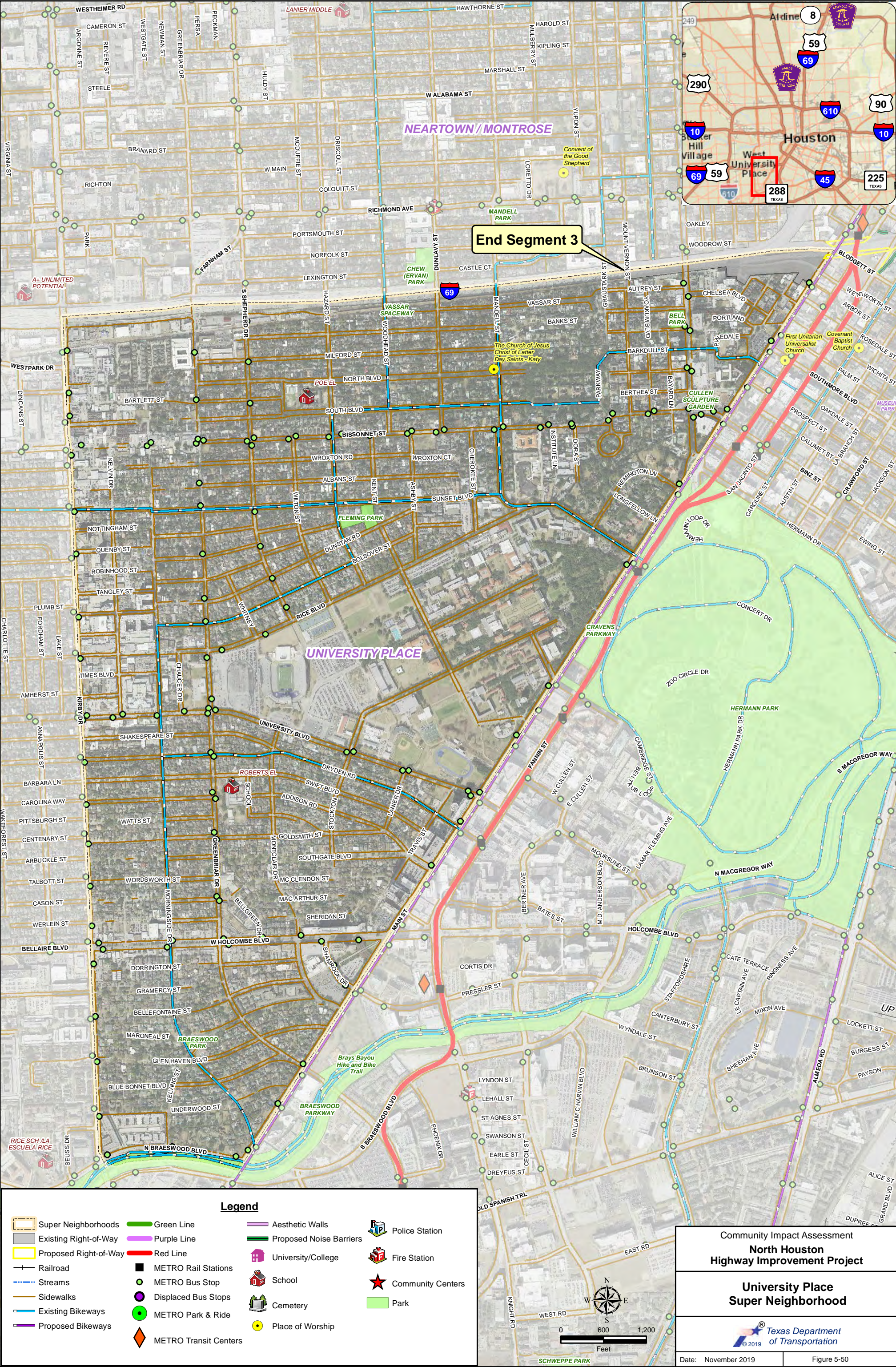
9 At-grade highway caps would be constructed at three bridged areas to support pedestrian
10 activity in the area: Fannin Street, and the Caroline Street/Wheeler Avenue intersection.
11 Future use of the highway cap area, which is approximately four acres, for another purpose
12 would require additional development and funding by entities other than TxDOT. The proposed
13 design would include sidewalks on both sides of all bridges that cross US 59/I-69. The San
14 Jacinto Street entrance ramp to US 59/I-69 would remain in the current location.

15 *5.2.3.10 University Place*

16 The University Place super neighborhood is located south of Downtown and west of the
17 Museum Park super neighborhood and is comprised of communities surrounding Rice
18 University. Its boundaries are Kirby Drive, US 59, Main Street, and North Braeswood
19 Boulevard. See Figure 5-50 for the location and boundaries of the University Place super
20 neighborhood.

21 *History:*

22 University Place is an affluent super neighborhood that developed near Rice University in the
23 1920s and 1930s. The neighborhood is just east of West University Place, an incorporated
24 community within Houston. University Place was a traditionally deed-restricted white
25 neighborhood that reflected suburbanization after the rise of the automobile. The
26 neighborhood is near the Museum District and the Texas Medical Center. The proximity to the
27 Medical Center has led to redevelopment along Holcombe Street and Main Street.



Current Demographics in the Super Neighborhood:

The demographic composition of University Place is mostly Non-Hispanic White (67.2 percent) and Non-Hispanic Asian (14.0 percent) as shown in Figure 5-51 (U.S. Census Bureau 2010).

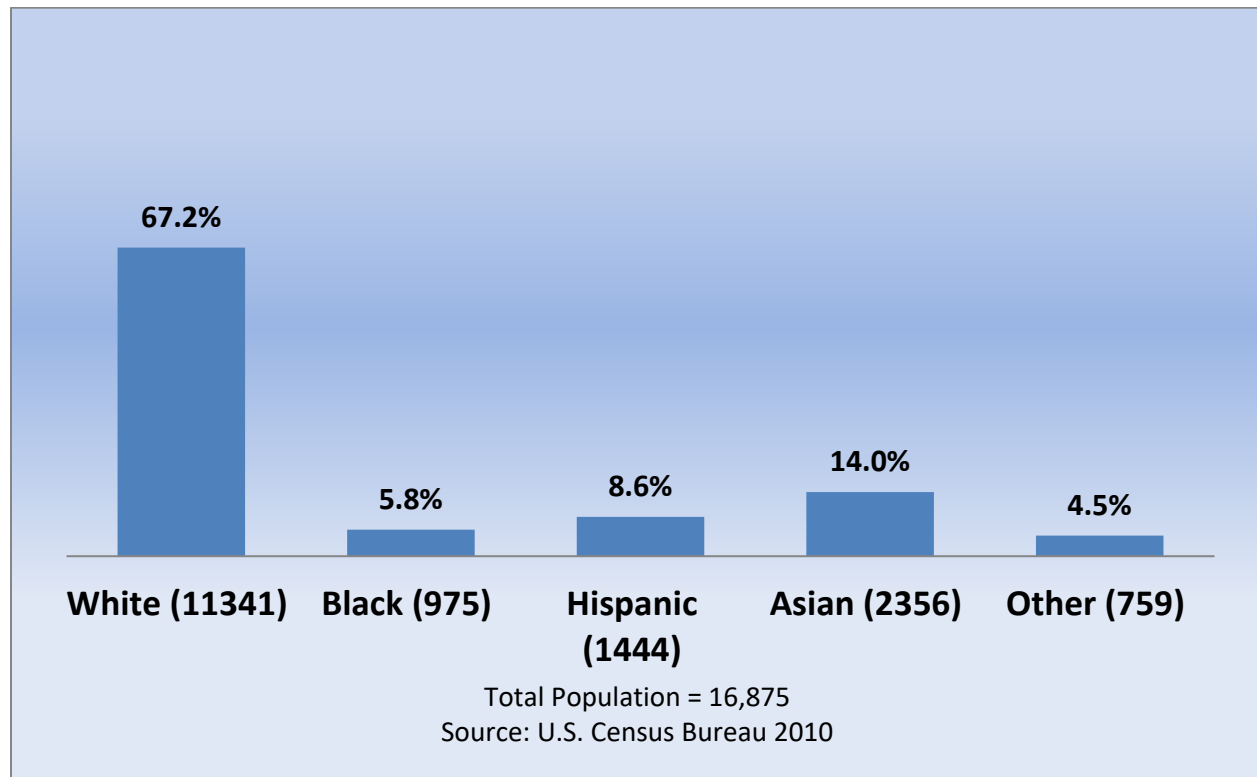


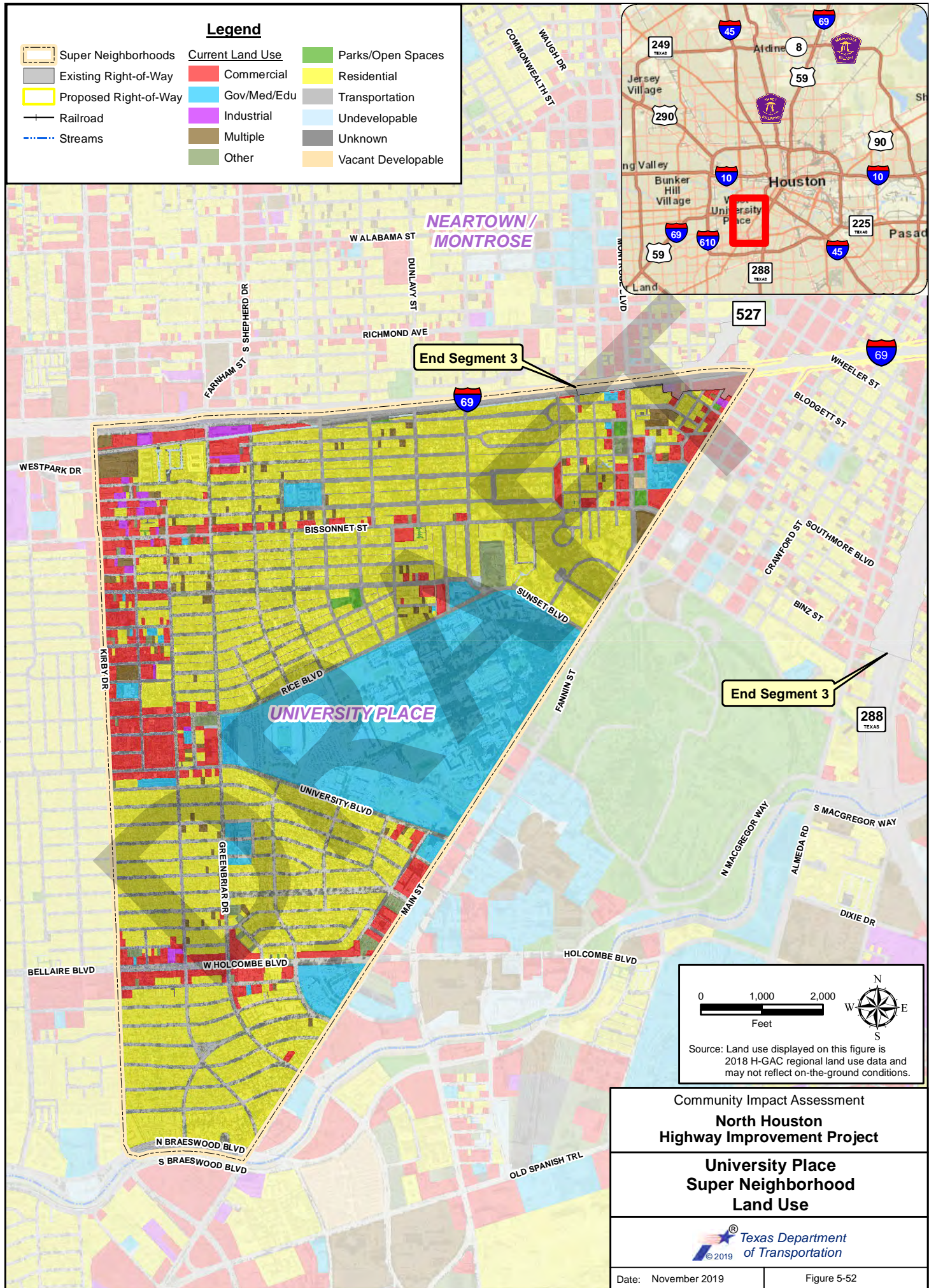
Figure 5-51: University Place Super Neighborhood Percent Population by Race

Land Use and Community Facilities:

There are small strips of commercial development along Kirby Drive and Holcombe Drive in University Place. Several schools and places of worship are located within the residential areas of the super neighborhood. The main community centers of the super neighborhood relate to Rice University's facilities. There are several museums in the northeast corner of the neighborhood, including the Museum of Fine Arts (1001 Bissonnet Street) and the Contemporary Arts Museum (5216 Montrose Boulevard). See Figure 5-52 for land use in this super neighborhood.

Future Vision and Goals:

The University Place Association acts as the Super Neighborhood Council, which represents the diverse interests of the community and promotes the area's goals (University Place Association 2019).



Effects on Community Cohesion

No residential displacements would occur in the University Place super neighborhood. The University Place super neighborhood is located south of Downtown and west of the Museum Park super neighborhood. The Preferred Alternative proposed right-of-way would not displace residences in University Place or create a new barrier that would divide or isolate this super neighborhood from adjacent communities. This neighborhood is not considered an environmental justice community of concern. The limited direct effects of construction will be felt in the north-eastern portion of the University Place super neighborhood.

There do not appear to be risks to community cohesion in University Place. In the original project design, the Preferred Alternative proposed right-of-way would reduce parking at the Post Oak School (1010 Autrey Street) located south of the Montrose Boulevard and US 59/I-69 intersection. However, TxDOT met with the school to discuss potential impacts to the proposed property. TxDOT made changes to the design to avoid impacts to the parking lot at this school.

5.2.4 Community Cohesion Summary

As described in the previous sections, community cohesion in multiple neighborhoods will likely be impacted by the project. Due to the overall impact of the project on neighborhoods in Houston, TxDOT will maintain an ongoing community dialogue throughout the design and construction phases of the project. Adjustments have been made to designs based on communications with neighborhoods, and commitments are being made with regard to displacements and other impacts that require mitigation. See Section 6.0 Mitigation and Commitments for required mitigation and additional measures that have been developed to address specific impacts identified during development of this technical report.

5.3 Business Impacts and Economic Conditions

This Section addresses project impacts to businesses and discusses economic conditions in the project area. Right-of-way acquisition for the proposed project would require the displacement of approximately 344 businesses and 58 billboards, as shown in Exhibit G-2.

Economic conditions in the project area include potential changes in tax revenue, property values, income, and employment.

The proposed project is located within an area that is highly urbanized in the fourth largest city in the United States. The northern portion of the proposed project between Beltway 8 and I-610 (Segment 1) started to develop in the 1970s and is the least densely developed segment along the project corridor. The areas between I-610 to north of Downtown Houston (Segment 2) developed from the 1940s to the 1970s. Downtown Houston (Segment 3) developed shortly after the founding of Houston in 1836 and is among the most densely populated areas in the city. The Downtown Houston area and the surrounding neighborhoods in the I-610 Loop have experienced significant redevelopment and densification over the past

decades. Development patterns and population forecasts indicate continuing growth along the I-45 corridor in north Houston and in the Downtown area.

According to 2018 H-GAC land use data, and verified by field visits, many areas within the proposed right-of-way and adjacent to the project corridor have commercial and industrial uses (Exhibit G-2). Table 5-10 shows the percentage of commercial and industrial land uses within one-half mile of the proposed project. However, there are many areas that are classified as multiple and other land uses that could include commercial and industrial businesses, although not displayed on Exhibit G-2.

Table 5-10: Commercial and Industrial Land Use

Land Use	Segment 1	Segment 2	Segment 3
	Percent *	Percent*	Percent*
Commercial	25	7	16
Industrial	8	2	4
Total	33	9	20

*Percent of total land use within one-half mile of the proposed right-of-way.

A majority of the project is located within the city limits of Houston, but a portion of the project corridor in Segment 1 crosses the Harris County Municipal Utility District (MUD) 321 and Fallbrook Utility District boundaries, as shown in Figure 5-53. MUD 321 and Fallbrook Utility District, located west of I-45 between Fallbrook Drive and West Mount Houston Road, are part of the city's extra territorial jurisdiction (ETJ). Business displacements not located within the boundary of a super neighborhood are primarily located within these two areas, and these business displacements are listed in Table 5-12.

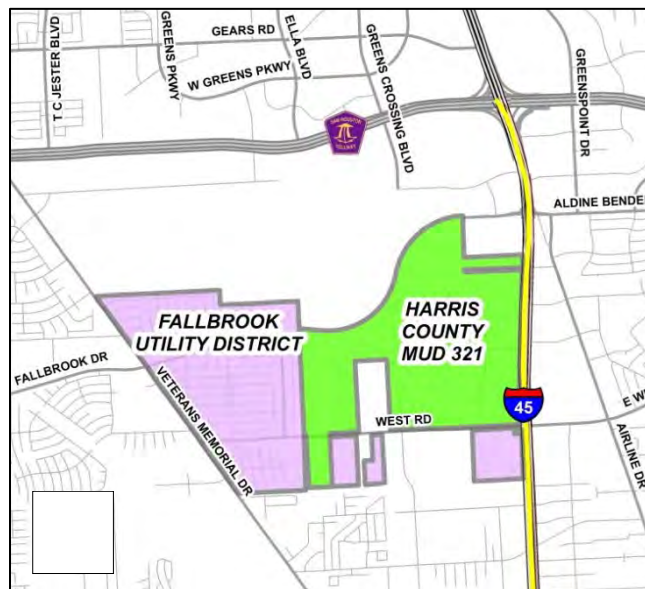


Figure 5-53: Utility Districts along Project Corridor

According to the H-GAC 2018 land use data, one percent or less of the land use within one-half mile of the project corridor is “vacant developable”. Development patterns are discussed in the Cumulative Impacts Assessment Technical Report.

5.3.1 What are the ways business could be impacted by the proposed project?

Businesses would be displaced due to right-of-way acquisition for the proposed project. Most of the businesses plan to re-open in the general vicinity of their current location.

Businesses near the project that are not impacted by right-of-way acquisition would potentially be impacted by temporary or permanent changes in access or travel patterns, which could affect business owners, employees and customers. Access and travel pattern impacts are discussed in Section 5.5.

The proposed project is anticipated to improve travel times for goods and services. Travel delay is projected to decrease by over 30 percent, travel speeds on average would increase by approximately 20 mph, and crashes are anticipated to be reduced by 30 percent on I-45 and I-610, 43 percent on SH 288, and 60 percent on I-10 and US 59/I-69. These benefits would be positive impacts for businesses, and their customers.

Redesign of sidewalk connectivity and repairs would improve access for pedestrians who walk or bike to local businesses along the project corridor

5.3.2 Where will business impacts be felt and who will be impacted?

5.3.2.1 Business Impacts

The types of businesses that would be displaced are listed in Table 5-11. Business types are based on 2018 HCAD land site codes and may not always reflect the current use of the property.

Table 5-11: Types of Businesses Displacements

Types of Business	Number	Percent of Total
Auto Dealer Full Service	12	3.5
Auto Service Garage	4	1.1
Auxiliary Improvements	7	2.0
Bank	1	0.3
Bar or Lounge/Night club Dinner Theater	10	2.9
Car Wash (Manual)	1	0.3
Cold Storage Facility	1	0.3
Commercial Building – Mixed Residential/New	2	0.6
General Commercial Vacant	24	6.9

Types of Business	Number	Percent of Total
Convenience Market with or without a Gas Pump	2	0.6
Discount Department	2	0.6
Distribution Warehouse	15	4.3
Downtown Right-of-Way	1	0.3
Drugstore	1	0.3
Hospital	1	0.3
Hotel or Motel	19	5.5
Light Industrial	1	0.3
Medical Offices	4	1.2
Office Buildings Low-Rise (1 to 4 Stories)	21	6.1
Parking Miscellaneous	2	0.6
Residential*	13	3.8
Restaurants or Fast Food	21	6.1
Res. Struct. Or Conversion	2	0.6
Retail Power	1	0.3
Retail Multi-Occupancy	11	3.2
Retail Single-Occupancy	23	6.7
Retention Pond	2	0.6
Service Station (Full or Self)	12	3.5
Shopping Center (Neighborhood and Strip)	65	18.9
Specialized Auto Use or Used Car Lot	5	1.5
Supermarket	1	0.3
Truck Stop	1	0.3
Unknown Business Type**	6	1.7
Warehouse Miscellaneous	49	14.2
Veterinary Clinic	1	0.3
Total	344	-

Source: NHHIP Study Team 2019

Note: Businesses located on properties that are used for residential purposes or are classified by HCAD as a residential land use type but are currently also used as business.

* HCAD land site code was not available.

Businesses that would be displaced by the proposed project were also categorized by super neighborhood. Most businesses would likely not be exclusively utilized by people who live in

1 the neighborhood. Businesses such as service stations, retail businesses, and restaurant and
 2 fast food establishments would likely be used by people who live in adjacent neighborhoods
 3 or work in the area.

4 **Table 5-12: Businesses in Super Neighborhoods**

Businesses Impacted (Number)	Type	Impact	Additional Information
Greater Greenspoint			
3	Restaurants/fast food	Displacement/relocation	
2	Auto dealer full service	Displacement/relocation	
20	Strip shopping center	Displacement/relocation	
2	Retail single-occupancy	Displacement/relocation	
1	Unknown business type	Displacement/relocation	
2	Spanish name grocery stores	Removal of parking spaces/not a displacement/relocation	El Rancho Supermercado and la Michoacana Meat Market
1	Medical	Removal of parking spaces/not a displacement/relocation	Nova Medical
Hidden Valley			
4	Hotel/motel	Displacement/relocation	
1	Convenience market with a gas pump	Displacement/relocation	
1	Fast food	Displacement/relocation	
2	Bar/lounge	Displacement/relocation	
3	Used car lots	Displacement/relocation	One car lot has a Spanish name, Mi Pueblo Auto Sales
9	Auto dealer full service	Displacement/relocation	Some of the businesses appear not be auto dealers, such as Doggett Heavy Equipment services, and Door Clearance Center
1	Service station (self)	Displacement/relocation	
5	Strip shopping center	Displacement/relocation	
1	Discount department store	Displacement/relocation	
3	Retail single occupancy	Displacement/relocation	
1	Warehouse	Displacement/relocation	
Acres Home			
1	Specialized auto use	Displacement/relocation	Express Muffler
Northside/Northline			
5	General Commercial Vacant	Displacement/relocation	Businesses appear not open/occupied
5	Hotel/motel	Displacement/relocation	
1	Commercial building mixed use	Displacement/relocation	

Businesses Impacted (Number)	Type	Impact	Additional Information
4	Restaurant/fast food	Displacement/relocation	
1	Bar/lounge	Displacement/relocation	
1	Used car lot	Displacement/relocation	
1	Auto deal full service	Displacement/relocation	
1	Auto service garage	Displacement/relocation	
2	Self Service station (self)	Displacement/relocation	
7	Strip shopping centers	Displacement/relocation	
1	Convenience food market	Displacement/relocation	Appears closed
3	Medical Offices	Displacement/relocation	Medical offices that serve low-income patients with Medicaid. One medical office is closed now and is leased by Southwest Key Programs, and operated as Casa Quetzal, a nonprofit for unaccompanied immigrant children.
1	Hospital	Displacement/relocation	Kindred hospital was closed but is now occupied with medical offices but is still primarily vacant.
8	Office buildings low rise (1 to 4 stories)	Displacement/relocation	One business is an urgent care facility
1	Drugstore	Displacement/relocation	Walgreens
8	Retail single occupancy	Displacement/relocation	
13	Distribution warehouses	Displacement/relocation	
2	Auxiliary improvement	Displacement/relocation	Allstate office and car lot
1	Cold storage	Displacement/relocation	
18	Service warehouse	Displacement/relocation	
1	Residential		Business operated at a residential property
Independence Heights			
10	General Commercial Vacant- Business currently not occupied	Displacement/relocation	
5	Motel/hotel	Displacement/relocation	One hotel appears to be abandoned
1	Fast Food restaurant	Displacement/relocation	Whataburger
1	Auto Service Garage	Displacement/relocation	
1	Service Station (Full)	Displacement/relocation	
2	Service Station (Self)	Displacement/relocation	
2	Parking miscellaneous	Displacement/relocation	
6	Strip shopping center	Displacement/relocation	Including a Barbers College, discussed in Section 5.2
1	Discount department store	Displacement/relocation	Furniture Clearance Outlet

Businesses Impacted (Number)	Type	Impact	Additional Information
3	Office buildings low rise (1 to 4 stories)	Displacement/relocation	
6	Retail Single and Multi-Occupancy	Displacement/relocation	
2	Auxiliary Improvement	Displacement/relocation	
3	Warehouses	Displacement/relocation	
6	Residential	Displacement/relocation	The property owner is likely operating businesses at residential properties
1	unknown business type	Displacement/relocation	
Near Northside			
1	Service Station (Self)	Displacement/relocation	
2	Hotel/Motel	Displacement/relocation	
1	Residential structure or conversion	Displacement/relocation	
1	Truck Stop	Displacement/relocation	Love's Truck Stop
4	Office buildings low rise (1 to 4 Stories)	Displacement/relocation	
1	Veterinary Clinic	Displacement/relocation	
2	Retail single-occupancy	Displacement/relocation	
2	Retail multi-occupancy	Displacement/relocation	
9	Warehouse or light industrial	Displacement/relocation	
3	Residential	Displacement/relocation	The property owner is likely operating businesses at residential properties
Greater Heights			
1	Hotel/Motel	Displacement/relocation	
1	Bar/lounge	Displacement/relocation	
1	Office Building low rise (1 to 4 stories)	Displacement/relocation	
1	Auxiliary improvement	Displacement/relocation	
1	Residential structure or conversion	Displacement/relocation	
1	Residential	Displacement/relocation	The property owner is likely operating businesses at residential properties
1	Warehouse	Displacement/relocation	
Downtown			
2	General commercial vacant	Displacement/relocation	
1	Commercial new construction	Displacement/relocation	
3	Restaurants	Displacement/relocation	Kim Son and other restaurants

Businesses Impacted (Number)	Type	Impact	Additional Information
6	Bar/lounges or Nightclub/Dinner Theaters	Displacement/relocation	
1	Self Service Station	Displacement/relocation	
1	Auto Service Garage	Displacement/relocation	
11	Strip shopping center	Displacement/relocation	
1	Supermarket	Displacement/relocation	Former Asian grocery store (now closed)
1	Medical Office	Displacement/relocation	Concentra Urgent care
16	miscellaneous warehouse	Displacement/relocation	Within these warehouse businesses, one business was defined as Yen Huong Bakery
2	Retail Single Occupancy	Displacement/relocation	
1	Auxiliary improvement	Displacement/relocation	Owned by Kim Son corporation
3	Office Buildings (1 to 4 stories)	Displacement/relocation	
1	Downtown right-of-way	Displacement/relocation	
2	unknown businesses classified	Displacement/relocation	Owned by US Sprint and Worldcom Network.
	Second Ward		
3	Retail multi-occupancy	Displacement/relocation	
1	Warehouse	Displacement/relocation	
Midtown			
2	Retail single-occupancy	Displacement/relocation	
1	Warehouse	Displacement/relocation	
1	Residential	Displacement/relocation	The property owner is likely operating businesses out of residential properties
Museum Park			
1	Service station (self)	Displacement/relocation	
1	Office building low rise (1 to 4 stories)	Displacement/relocation	
1	Residential	Displacement/relocation	The property owner is likely operating businesses at residential properties
1	Unknown business type	Displacement/relocation	
No Super Neighborhood			
5	General commercial vacant	Displacement/relocation	
2	Hotel/motel	Displacement/relocation	
9	Restaurant/fast food	Displacement/relocation	
1	Auto service garage	Displacement/relocation	
2	Service station (self)	Displacement/relocation	

Businesses Impacted (Number)	Type	Impact	Additional Information
1	Car wash (manual)	Displacement/relocation	
1	Retail power center	Displacement/relocation	Fry's electronics
16	Strip centers	Displacement/relocation	
1	Bank	Displacement/relocation	
1	Office buildings low rise (1 to 4 stories)	Displacement/relocation	
3	Retail single-occupancy	Displacement/relocation	
2	Warehouse	Displacement/relocation	
2	Retention pond	Displacement/relocation	Tampico Restaurant and Durastone
3	Retail multi-occupancy	Displacement/relocation	
1	Unknown business type	Displacement/relocation	

Source: HCAD 2019, NHHIP Study Team 2019

5.3.2.2 *Businesses that Serve Minority Populations*

Between Beltway 8 and I-610, many businesses have Spanish-language signs. Businesses that would not be displaced but are adjacent to the project right-of-way are Del Angel Funerarias (funeral home), two Spanish named grocery stores (El Rancho Supermercado and La Michoacana Meat Market) that would lose some parking spaces. On the east side of downtown, the Yen Huong bakery, and Kim Son and Huynh Vietnamese restaurants have Asian-language names, and would be displaced and relocated as a result of the proposed project.

The relocation of businesses could impact the income of businesses and their staff. TxDOT will provide relocation assistance to all businesses and service providers that would be displaced. Temporary impacts would be anticipated. The project area is highly urbanized, and as discussed in Section 5.1.2, in most cases office or retail spaces are currently available for sale or for lease within a reasonable distance of current locations. Some business owners may choose to not reestablish. Businesses such as hotels or motels may not be able to find available vacant or closed hotel/motel properties available adjacent to the I-45 corridor and may need to relocate a farther away from I-45.

5.3.3 **Economic Conditions**

Right-of-way acquisition for the proposed project could result in impacts to property and sales tax revenues for local jurisdictions. The City of Houston, HISD, Aldine ISD, Harris County (and associated authorities), and municipal utility districts (MUD) collect property taxes from landowners in the project area. Sales taxes generated by businesses are collected by the State of Texas, the City of Houston, and METRO.

Conversion of land to roadway right-of-way and the resulting displacement of businesses that provide property and sales tax revenue could have a negative impact on the local economy as current tax generating properties would no longer be on the tax rolls. It is likely that many of the displaced businesses would choose to relocate in the area, and tax revenue impacts would be temporary if they reestablish within the same taxing jurisdiction. The proposed project would result in beneficial impacts such as an increase of jobs and sales revenue in the local and state economy in the short term, due to construction spending. The proposed project may also promote redevelopment and economic growth.

As discussed in Section 5.3, the proposed project would require right-of-way from property on the west side of I-45 between Fallbrook Drive and West Mount Houston Road, which is outside of the Houston city limits and within the jurisdiction of MUD 321 and Fallbrook Utility District. This is a limited purpose annexation area where the City of Houston has an agreement with the MUDs to provide limited services and in return, the City collects a portion of the commercial sales tax revenue. The City does not collect property taxes in the limited purpose annexation areas. Property taxes are paid to the MUDs.

Most of the displaced businesses could relocate within the Houston city limits and could continue to generate sales tax for the city. The proposed right-of-way of the Preferred Alternative would displace approximately 33 businesses within the limited purpose annexation area. Some businesses within the limited purpose annexation area have a regional draw (i.e., Fry's Electronics), and if displaced, these businesses may not relocate in the same area. Business displacements and right-of-way acquisition could result in reduced sales and property tax revenues for MUD 321 and the Fallbrook Utility District.

If new businesses are constructed or re-established within the city, the sales tax impacts could be offset. Since local ordinances in the City of Houston operate on a case by case for replacement of displaced billboards, the property owners could potentially lose income earned from billboard advertisements.

5.3.4 Summary of Impacts

5.3.4.1 Impacts on Tax Revenue

TxDOT will attempt to maintain access to all businesses during construction. Loss of customers due to temporary changes in access could result in temporary loss of income to businesses affected by the proposed construction. Roadway construction activities would create new job opportunities and income potential in the area in the short term. The number of construction-related jobs would vary depending on the phasing of project construction.

The estimated annual property and sales taxes paid by property owners and businesses that would be impacted by right-of-way acquisition are summarized in Table 5-13. A list of estimated annual sales taxes for businesses that would be displaced is provided in Appendix G, Table G-2.

Table 5-13: Summary of Annual Property Tax and Sales Tax

Impact	Entire Project Area	
	\$ Annual Amount	\$ Annual Amount
Property Tax	\$13.6 M	
Business Sales Tax	\$139.3 M (Low Range)	\$300.3 M (High Range)
Total	\$152.9 M (Low Range)	\$313.9 M (High Range)

Source: NHHIP Study Team 2018

Notes: Annual amounts were rounded to nearest \$100,000.

Key: M= million

According to *City of Houston, Texas Comprehensive Annual Financial Report, For Fiscal Year Ended June 30, 2017*, during the last 2016-2017 fiscal year the City of Houston collected approximately \$1.2 billion in property taxes. Based on an estimation that the City of Houston would have received a maximum of 23 percent of the property taxes collected by Harris County Appraisal District, the total annual property taxes for the land to be acquired for the project right-of-way is approximately 0.26 percent of the City of Houston's annual property tax revenue. This potential decrease in property tax revenue may be offset as property owners reestablish and potentially develop or redevelop other parcels in the city, which could potentially increase assessed values and tax revenues. Some of the existing state-owned right-of-way could become available for sale as surplus property in the future, and these areas could eventually be added back to the local tax rolls, which could generate additional tax revenue.

5.3.4.2 Impacts on Employment and Income

Between 4,840 to 13,713 jobs exist at businesses that are within the proposed project right-of-way. This represents between 0.43 to 1.2 percent of the 1,126,894 jobs in the City of Houston as of June 2018 (Texas Workforce Commission 2018).

Because there are available office, retail, and industrial properties and vacant land for sale or lease in the vicinity of the proposed project, it is expected that businesses could relocate in the area if they desire.

The proposed project has the potential to directly and indirectly affect employment and income, including creating over 100,000 construction-related jobs, as shown in Table 5-14.

TxDOT will facilitate opportunities such as job fairs to promote hiring individuals from the local communities, for general employment and for project construction. TxDOT will conduct at least two job fairs in each segment during construction and would research opportunities to invest funds in a local workforce development program aimed at job readiness training prior to construction.

Construction of the proposed project would have direct and indirect effects on local, regional, and state employment, output, and income. Direct effects would include those arising from purchases made by the new highway construction sector. Direct costs would be wages and

salaries paid to workers directly engaged in constructing the proposed project, as well as capital costs for equipment, materials, and supplies during construction. Indirect effects would be the sum of all the rounds of purchases by the interrelated sectors of the state's economy (including direct, induced, and all additional effects), beginning with those that supply the suppliers of the new highway construction sector. Indirect effects would distribute throughout the economy with each round of purchases.

The number of construction-related jobs would vary depending on the phasing of construction. Regardless of the phasing, the local economy would likely experience a temporary increase in spending by construction employees at businesses and restaurants near the proposed project during construction. Roadway construction activities would create new job opportunities and income potential over the short term.

The economic effects of the proposed project are estimated by using multipliers generated by the Texas State Office of the Comptroller's input/output model and the Regional Economic Model, Inc. (REMI). The multipliers are used to determine final demand, employment, and income related to highway construction. When multiplied by the total construction cost of the proposed project, the multipliers produce estimates of the economic impacts of construction on a statewide basis. The proportion of economic effects retained locally depends on capturing local materials and labor during the construction process. The general construction cost of the project is currently estimated to be \$7 billion, which does not account for estimated right-of-way costs. Table 5-14 presents the estimated total direct and indirect employment, income, and statewide effect economic effects from the proposed project.

Table 5-14: Direct and Indirect Economic Effects

Range of Construction Cost	Income (billion)			Employment			Statewide Final Demand (billion)
	Direct	Indirect	Total	Direct	Indirect	Total	
\$7 billion	\$2.0	\$4.1	\$6.1	92,064	89,323	181,387	\$19.2

Source: NHHIP Study Team 2018

Notes: Annual amounts were rounded to nearest \$100,000.

Key: M= million

5.3.5 Mitigation Measures for Impacted Businesses

Mitigation measures for impacts to businesses are summarized in Section 6. TxDOT provides benefits during property acquisition such as assistance locating another location and financial assistance in the form of moving and related expenses. Mitigation measures that are required by policy/regulation are shown in Table 6-1 and additional mitigation measures that are not required by policy/regulation are listed in Table 6-2.

5.4 Parks, Open Space, and Hike and Bike Trails

Direct and indirect impacts to parks, open space, and hike and bike trails were evaluated. Open spaces along the bayou greenways are designated for flood control uses and are therefore not parks, even though they are used for incidental recreational purposes. Greenways and open space areas are not all designated city or county parks. Bicycle facilities in the project area include shared-use bikeways through residential and recreational areas, and designated bike lanes along roadways. Bikeways are part of the local transportation system and function primarily for transportation. Pedestrian sidewalks are available along most major thoroughfares. Exhibits showing parks and existing and proposed bikeways along the project corridor are provided in Appendix E.

5.4.1 Segment 1: I-45 from Beltway 8 to I-610

5.4.1.1 Impacts to Parks and Open Spaces

No parks are located in the proposed right-of-way of the Preferred Alternative in Segment 1. The proposed project is not expected to have direct impacts on park facilities. The Preferred Alternative would cross Halls Bayou on the west side of I-45, just north of West Mount Houston Road, and would require new right-of-way that would reduce open space along this segment of the bayou. The proposed project would increase traffic noise near open spaces along Halls Bayou in the Segment 1 study area.

5.4.1.2 Impacts to Hike and Bike Trails

In the Segment 1 study area, existing bike routes on Crosstimbers Street cross the proposed right-of-way of the Preferred Alternative. The City's long-term bikeway vision includes dedicated bikeways within the street right-of-way along several roadways that cross the project corridor including Little York Road, Parker Road, and Tidwell Road (City of Houston 2018a). During construction, access to bike routes could be limited or redirected; however, impacts would be minimized as much as possible. TxDOT will coordinate with the City of Houston and METRO during project design to minimize the temporary and permanent impacts to bicycle facilities.

The proposed project would include sidewalks along I-45 and at the major intersections. The proposed project would also provide continuity of sidewalks and shared use lanes along the frontage roads by adding sidewalks and pathways in areas as needed. In response to public comments, TxDOT will include a sidewalk within the I-45 right-of-way on the south side of Stokes Street and would accommodate a trail connection by others between the proposed frontage road and the south side of Stokes Street.

The city's long-term bikeway vision plan includes future bike paths and trails along Halls Bayou and Little White Oak Bayou. In Segment 1, the Preferred Alternative would cross future bikeways along Halls Bayou north of West Mount Houston Road and future bikeways along Little White Bayou between Tidwell Road and I-610. TxDOT will continue to coordinate with

the City of Houston to accommodate space for future bike trails as shown on the City of Houston Bike Plan.

5.4.2 Segment 2: I-45 from I-610 to I-10

5.4.2.1 Impacts to Parks and Open Spaces

No city or county parks are located in the proposed right-of-way of the Preferred Alternative in Segment 2. The proposed project is not expected to have direct impacts on park facilities. The Preferred Alternative would not require new right-of-way within Woodland Park. The traffic noise analysis indicates an increase in traffic noise levels near the park's ball field and the Woodland Park trail. A noise barrier is proposed to reduce noise levels at the park. Increased noise and visual impacts are not expected to impair the use of Woodland Park and therefore no constructive use of the park will occur. Additional information on noise impacts is provided in the NHHIP Traffic Noise Technical Report.

The proposed project would require new right-of-way along Little White Oak Bayou that would reduce open space and affect the visual quality along this segment of the bayou near I-45. Additional information on visual impacts is provided in the Visual Impact Analysis Technical Report and Addendum to the report.

5.4.2.2 Impacts to Hike and Bike Trails

The Preferred Alternative would require new right-of-way in existing bicycle routes on Cavalcade Street and Stokes Street and hike and bike trails along White Oak Bayou between Link Road and Cavalcade Street on the west side of I-45. The City of Houston is planning to add new on-street bikeways along Quitman Street and South Street to connect the White Oak Bayou Bike Trail to the Fulton Street bike lanes, as well as new shared-use paths from Woodland Park to the Heights Hike and Bike Trail (City of Houston 2018a). Right-of-way acquisition in bike routes may redirect pathways that connect to neighborhoods and other bike routes. During construction, access to trails could be limited; however, impacts would be minimized as much as possible. TxDOT will coordinate with the City of Houston Parks Board to provide the same level of connectivity as the existing conditions.

Based on community comments, the alignment of the existing pedestrian/bicycle trail along the west side of I-45 south of Link Road would be modified to provide a connection to the proposed sidewalk/trail adjacent to the southbound I-45 frontage road. The connection would allow for the continued use of the trail by pedestrians and cyclists.

Consistent with the Houston Parks Board's vision to extend trails along Little White Oak Bayou, the proposed opening at the Little White Oak Bayou crossing at I-45 south of North Street provides an opportunity for a trail to connect Woodland Park and Moody Park, which does not currently exist. TxDOT will propose openings conducive to bicycle/pedestrian crossings at Little White Oak Bayou under I-45 just north of Patton Street and at Little White Oak Bayou under I-610. The size of the openings will be coordinated with HCFCD, taking into account

1 potential upstream and downstream impacts. TxDOT will continue to work with HCFCD on
2 these elements during detailed design.

3 The city's long-term bikeway vision plan includes future bike paths and trails along Little White
4 Oak Bayou that are within the proposed right-of-way of the Preferred Alternative. The Preferred
5 Alternative would cross future bikeway north of Patton Street and south of North Main Street
6 into Woodland Park. TxDOT will continue to partner with the City to accommodate space for
7 future bike trails as shown on the City of Houston Bike Plan.

8 **5.4.3 Segment 3: Downtown Loop System**

9 *5.4.3.1 Impacts to Parks and Open Spaces*

10 No parks are located in the proposed right-of-way of the Preferred Alternative in Segment 3;
11 therefore, the proposed project is not expected to have direct impacts on park facilities. The
12 design of the Preferred Alternative was modified to avoid acquisition of property from Linear
13 Park and Freed Art & Nature Park.

14 While the Preferred Alternative would not require right-of-way from Sesquicentennial Park, the
15 new alignment of the elevated I-45 direct connectors would shift I-45 slightly to the east and
16 would reduce open space at the eastern boundary of Sesquicentennial Park between Capitol
17 Street and Texas Avenue. The open space is within TxDOT's right-of-way and the impact would
18 be aerial only, as the roadway would be elevated above the park.

19 In response to public comments, TxDOT will consider options for a "signature bridge" over
20 Sam Houston Park and Buffalo Bayou. The design of bridges would be conducted as a
21 collaboration between the management districts or neighborhood groups and TxDOT. Funding
22 for "signature" bridges would be determined in a later phase of project development. Details
23 regarding the design of "signature" bridges cannot be determined until the final design phase,
24 which cannot occur until completion of the NEPA process per FHWA's rules. 23 CFR
25 771.113(a). The realignment of I-10 and I-45 on the north side of Downtown would bridge
26 over White Oak Bayou and reduce approximately 18 acres of open space area (of which
27 approximately 10 acres are within existing TxDOT right-of-way) between I-45 and the eastern
28 boundary of the Heights Bike Trail at White Oak Bayou. The impact would be primarily aerial
29 (bridges over the open space), with some columns to support the bridges. The primary use of
30 the open space area along the bayou is for drainage and flood control, per an interlocal
31 agreement between the Harris County Flood Control District and the City of Houston. The view
32 from the University of Houston Downtown to central Downtown would improve because the
33 existing elevated highways would be realigned north of the campus.

34 This portion of the White Oak Bayou greenway has direct views to the Downtown skyline.
35 Construction of the overpass would require several rows of columns that would impair the
36 existing view and sense of open space. TxDOT will design bridges in consideration of visual
37 aesthetics, including views from the Near Northside super neighborhood and surrounding
38 areas. Additionally, TxDOT is evaluating the use of the proposed storm water detention areas

1 as potential green spaces with opportunities for recreation areas under the elevated sections
2 of the roadways.

3 Traffic noise is expected to increase near Hennessy Park, which is located north of I-10
4 between I-45 and US 59/I-69. Hennessy Park is not within the proposed new right-of-way of
5 the Preferred Alternative. A noise barrier is proposed at this location. The traffic noise analysis
6 indicates traffic noise levels would decrease near the Leonel Castillo Community Center and
7 Hogg Park. Details of the analysis are in the NHHIP Traffic Noise Technical Report. On the east
8 side of US 59/I-69, the Preferred Alternative would require new right-of-way in existing bicycle
9 routes on Runnels/Navigation Boulevard, Commerce Street, Polk Street, and Leeland Street.
10 Farther south, the Preferred Alternative would require new right-of-way in existing bicycle
11 routes along Caroline Street between Eagle Street and Blodgett Street. During construction,
12 impacts to bike routes may limit mobility between neighborhoods. TxDOT will coordinate with
13 the City of Houston to provide the same level of connectivity as the existing conditions.

14 Several existing pedestrian and bicycle routes are located along White Oak and Buffalo
15 Bayous and through Downtown and adjacent neighborhoods in the Segment 3 corridor. The
16 Preferred Alternative would cross the White Oak Bayou Trail, which includes an off-street bike
17 path along White Oak Bayou on the north side of I-10 through White Oak Parkway and on the
18 east side of I-45 through Hogg Park into Downtown. The Preferred Alternative would also cross
19 the Buffalo Bayou Trail that follows the bayou through several parks into Downtown. The
20 proposed right-of-way includes land where hike and bike trails are along White Oak Parkway,
21 in the Downtown area, and in locations where pathways connect neighborhoods. Impacts to
22 hike and bike trails would be temporary during construction, and the Preferred Alternative
23 would not affect the long-term use of facilities. The proposed project considers trails, and will
24 accommodate or replace existing trails and allow for planned future trails. During detailed
25 design, TxDOT will coordinate with entities who desire to create greenways or develop trails
26 and connections in the proposed project area, and will accommodate plans by others, if
27 feasible.

28 **5.4.4 Summary of Impacts**

29 The Preferred Alternative would reduce some open space along the bayou greenways,
30 however, visibility and open space along the greenways would be improved in other locations
31 where the freeway overpasses are eliminated. TxDOT will use proposed storm water detention
32 areas as green spaces where possible. TxDOT will accommodate or replace existing trails that
33 are impacted by the proposed project, as well as allow for planned future trails. TxDOT will
34 coordinate with entities interested in developing greenways and trail connections in the
35 proposed project area.

36 The Preferred Alternative would cross future bikeways. The city's long-term bikeway vision plan
37 includes future off-street bike paths that connect to existing bayou trail segments and to
38 several parks into Downtown (City of Houston 2018a). Long-term vision bikeway projects
39 support the city's goal of providing citywide access; however, these projects do not have

dedicated funding or an established implementation schedule. Long-term projects are likely to be capital-intensive or require street reconstruction. TxDOT is coordinating with the City of Houston regarding the specific design of the city street network adjacent to and crossing the NHHIP. TxDOT will continue to coordinate with the City to accommodate space for future bike trails as shown on the City of Houston Bike Plan.

The proposed project provides an opportunity for the development of green space. The proposed project would create open spaces where existing freeways would be removed. Efforts have been made to maintain existing green spaces, and proposed storm water detention areas are being evaluated as potential green spaces. There are opportunities for green spaces under elevated sections of the highways. TxDOT will provide a highway "cap" over some areas of depressed roadways, as shown on the plans; future use of the highway cap area for another purpose would require additional development and funding by entities other than TxDOT.

Proposed mitigation for impacts to hike and bike trails is further discussed in Section 6.0.

5.5 Mobility and Accessibility

The following discussion evaluates potential changes to mobility and accessibility within the NHHIP project area for all modes of surface transportation. Potential impacts to mobility and accessibility for vehicular traffic, pedestrians, and bicyclists are discussed first by segment/super neighborhood, followed by potential impacts to transit facilities by segment. Potential impacts to rail facilities are discussed at the end of this section.

5.5.1 Segment 1: Impacts to Vehicular Traffic, Pedestrians, and Bicyclists

5.5.1.1 Greater Greenspoint Super Neighborhood

On the west side of I-45, Greater Greenspoint spans from Kuykendahl Road to south of Fallbrook Drive, and on the east side of I-45, spans from Greens Road to West Mount Houston Road. The Greenspoint Mall is adjacent and northeast to the I-45/Beltway 8 interchange. Since the proposed improvements under the Preferred Alternative begin at the intersection of I-45 with Beltway 8, this discussion will focus on access and travel patterns south of Beltway 8. Under the current conditions, drivers traveling along I-45 southbound can access the portion of Greater Greenspoint east of I-45 and south of Beltway 8 by taking the Greens Road exit, merging onto the frontage road and passing under the I-45/Beltway 8 interchange, taking a right at local roads including Fallbrook Drive. To access the portion of Greater Greenspoint east of I-45, drivers can either exit to West Road or to West Mount Houston Road, turning left at the signalized underpasses. Drivers traveling along I-45 northbound can access the neighborhood by exiting to West Mount Houston Road or to West Road and turning right at the signalized intersections. Drivers can also exit to Aldine Bender Road and turn right to access the portion of Greater Greenspoint east of I-45 or turn left on Fallbrook Road to access the portion of the neighborhood west of I-45. Drivers from the neighborhood can exit from the I-45 northbound HOV lane north of West Road.

1 Currently, drivers from the portion of Greater Greenspoint east of I-45 and immediately south
2 of Beltway 8 can access the I-45 southbound mainlanes by traveling north along the I-45
3 frontage road, making a U-turn under the I-45 mainlanes at North Sam Houston Parkway, and
4 using the entrance ramp south of the I-45/Beltway 8 interchange. Drivers can also use the
5 entrance ramp south of Greens Landing Drive (north of West Road) or the entrance ramp
6 south of Blue Bell Road. Drivers can access the I-45 southbound HOV lane via the entrance
7 ramp north of West Road. Drivers from the neighborhood can access the I-45 northbound
8 mainlanes by using the entrance ramp north of Blue Bell Road or the entrance ramp north of
9 West Road (south of Aldine Bender Road). Drivers in Greater Greenspoint can access the
10 Hidden Valley super neighborhood via Blue Bell Road, to the west of I-45.

11 Under current conditions, drivers traveling eastbound on Beltway 8 can access the portion of
12 Greater Greenspoint west of I-45 and south of Beltway 8 by exiting to Ella Boulevard and
13 Greens Crossing Boulevard, and turning right at the Greens Crossing signalized intersection.
14 Drivers traveling eastbound on Beltway 8 can access the portion of the neighborhood east of
15 I-45 and south of Beltway 8 by exiting to Greenspoint Drive and Imperial Valley Drive and
16 turning right at the signalized intersections. Currently, drivers traveling westbound can access
17 the portion of the neighborhood west of I-45 and south of Beltway 8 by exiting to Greenspoint
18 Drive, passing under the I-45/Beltway 8 interchange, and turning left onto the I-45
19 southbound frontage road. Drivers traveling westbound on Beltway 8 can access the portion
20 of the neighborhood east of I-45 and south of Beltway 8 by exiting to either Imperial Valley
21 Drive or to Greenspoint Drive and turning left at the signalized underpasses.

22 Under current conditions, drivers from Greater Greenspoint can access the Beltway 8
23 eastbound mainlanes by using the entrance ramp at Northchase Drive. To access the Beltway
24 8 westbound mainlanes, drivers from the neighborhood can use the entrance ramp east of
25 Imperial Valley Drive or use the entrance ramp west of Greenspoint Drive (east of the
26 I-45/Beltway 8 intersection).

27 Under the Preferred Alternative, the single HOV lane that currently accommodates I-45
28 northbound and southbound traffic (depending on the time of day) would be widened to
29 include both northbound and southbound MaX lanes. Both the I-45 northbound exit to West
30 Mount Houston Road as well as the I-45 northbound exit ramp north of Aldine Bender Road
31 and south of the I-45/Beltway 8 interchange would be removed. In addition, the I-45
32 northbound entrance ramp north of West Road would be relocated to the north of Aldine
33 Bender Road. An I-45 overpass would be constructed at Blue Bell Road, connecting the
34 existing roadway.

35 Overall, the proposed improvements under the Preferred Alternative would slightly change
36 access and travel patterns for Greater Greenspoint. The replacement of the single HOV lane
37 with two MaX lanes in each direction would improve travel patterns for drivers from the
38 neighborhood. The removal of the I-45 northbound exit ramp to West Mount Houston Road
39 would require Greater Greenspoint drivers to exit to West Gulf Bank Road, traveling through
40 an additional signalized intersection. The removal of the exit ramp between Aldine Bender

1 Road and the I-45/Beltway 8 interchange would require drivers accessing the portion of the
2 neighborhood east of I-45 and south of Beltway 8 to exit to Aldine Bender Road and travel
3 through an additional signalized intersection. The relocation of the I-45 northbound entrance
4 ramp from north of West Road to north of Aldine Bender Road would cause drivers north of
5 West Road and south of Aldine Bender Road to travel through the additional signalized
6 intersection at Aldine Bender Road. The connection of Blue Bell Road across I-45 would allow
7 for greater connectivity between Greater Greenspoint and Hidden Valley.

8 The schools located in the portion of Greater Greenspoint east of I-45 and south of Beltway
9 8—including Marcella Elementary School on Cotillion Drive; Black Elementary School on Mill
10 Stream Lane; Bussey Elementary School on Airline Drive; Thompson Elementary School on
11 Casa Grande Drive; Stovall Middle School on Airline Drive; and Aldine High School on Airline
12 Drive—would experience minor changes in access and travel patterns from the proposed
13 improvements under the Preferred Alternative. Places of worship along West Road (east of
14 I-45) would not experience changes in access and travel patterns due to the proposed
15 improvements under the Preferred Alternative.

16 Under the Preferred Alternative, continuous sidewalks would be constructed adjacent to the
17 I-45 southbound and northbound frontage roads. Additionally, the width of the Fallbrook
18 Drive/Aldine Bender Road and West Road cross streets would accommodate bicyclists. Under
19 the proposed improvements, the connection of Blue Bell Road under I-45 would allow
20 pedestrians and bicyclists to travel between the southern portion of Greater Greenspoint and
21 the northern portion of Hidden Valley.

22 *5.5.1.2 Northside/Northline Super Neighborhood*

23 *West Mount Houston Road to Little York Road*

24 Under the current conditions, drivers traveling south on I-45 can access the portion of
25 Northside/Northline between West Mount Houston Road and Little York Road (east of I-45)
26 by exiting to West Mount Houston Road or West Gulf Bank Road and turning left at the
27 signalized underpasses. Drivers can also exit to North Shepherd Drive and turn left at North
28 Victory Street, traveling across I-45 and merging onto Little York Road. Currently, drivers
29 traveling north on I-45 can access this portion of Northside/Northline by exiting to Little York
30 Road; Gulf Bank Road; or West Mount Houston Road, turning right at the signalized
31 intersections.

32 Drivers from this portion of Northside/Northline can access the I-45 southbound mainlanes
33 by passing under I-45 and using the entrance ramp south of West Mount Houston Road; the
34 entrance ramp south of West Gulf Bank Road (at Dewalt Street); or the entrance ramp south
35 of the intersection of I-45 with Veterans Memorial Drive and North Shepherd Drive. Drivers
36 can access the I-45 northbound mainlanes by using the entrance ramp at North Shepherd
37 Drive or the entrance ramp north of West Gulf Bank Road (south of West Mount Houston
38 Road). Drivers from this portion of Northside/Northline can access Hidden Valley by crossing
39 under I-45 at West Mount Houston Road; West Gulf Bank Road; and Little York Road.

Under the Preferred Alternative, the exit and entrance ramps at North Shepherd Drive would be replaced, and drivers from this portion of Northside/Northline would continue to be able to access the I-45 mainlanes in much the same way as today. Overall, access to and from the Acres Home super neighborhood would generally not change.

Community facilities in this portion of Northside/Northline, including Melrose Park located between Carby Road and Canino Road as well as schools and places of worship located between Canino Road and Little York Road, would not experience substantial changes to access and travel patterns as a result of the proposed improvements.

Little York Road to Houston Belt and Terminal Railway

Currently, drivers traveling south on I-45 can access the portion of the neighborhood from Little York Road to the HB&T railroad tracks by exiting to Parker Road and Yale Street; Tidwell Road; Airline Drive; or Crosstimbers Street, and turning left at the signalized underpasses. Drivers can also exit to the frontage road near Riggs Road, making a U-turn under I-45 onto the northbound frontage road and turning right at local streets or at the Crosstimbers Street signalized intersection. Drivers from this portion of Northside/Northline traveling northbound on I-45 can exit to Crosstimbers Street, Airline Drive, Tidwell Road, Parker Road and Yale Street, or Little York Road, and turning right at the signalized intersections.

Drivers from this portion of Northside/Northline can access the I-45 southbound mainlanes by crossing under I-45 and using the entrance ramp south of the intersection of I-45 with Veterans Memorial Drive and North Shepherd Drive; the entrance ramp south of Little York Road (north of Parker Road); the entrance ramp south of Parker Road (north of Tidwell Road); the entrance ramp between Airline Drive and Crosstimbers Street; or the entrance ramp south of Riggs Road (north of Stokes Street). Drivers from this portion of the neighborhood can access the I-45 northbound mainlanes by using the entrance ramp at Burrell Street (south of Tidwell Road); the entrance ramp near Rosamond Street (south of Parker Road); or the entrance ramp north of Rittenhouse Street (south of Little York Road). Currently, drivers accessing this portion of the neighborhood from the I-45 HOV lane can exit via the ramp located at the East 40½ Street and Airline Drive intersection. Drivers can then either turn right onto Airline Drive and turn left at Crosstimbers Street to pass under I-45 into Northside/Northline; or can turn right onto Airline Drive, turn right onto Riggs Road, and then take the U-turn under I-45 to access Northside/Northline. To access the I-45 HOV lane, drivers from this portion of the neighborhood can pass under I-45 via Crosstimbers Street and turn left onto Airline Drive, using the entrance ramp located at the East 40½ Street and Airline Drive intersection. Drivers from this portion of Northside/Northline can access Acres Home via North Shepherd Drive, and can access Independence Heights via Tidwell Road. Drivers can also cross under I-45 to access Independence Heights via Crosstimbers Street or by using the I-45 frontage road U-turn north of Stokes Street.

Under the Preferred Alternative, the southbound entrance and exit ramps between Airline Drive and Crosstimbers Street would be removed. The I-45 northbound exit to Airline Drive

1 would also be removed. The existing I-45 single HOV lane that accommodates traffic heading
2 northbound and southbound (depending on the time of day) would be widened to include both
3 northbound and southbound MaX lanes. The existing HOV lane exit and entrance ramps
4 located at the East 40½ Street and Airline Drive intersection would be removed. A southbound
5 I-45 MaX lane exit ramp and a northbound I-45 MaX lane entrance ramp would be constructed
6 north of Stokes Street, connecting to the extended frontage roads. This would allow drivers to
7 access the northbound I-45 MaX lane directly from the neighborhood rather than passing
8 under I-45 into Independence Heights. Currently, the I-45 and I-610 interchange only includes
9 mainlanes and connecting ramps and does not include a frontage road system. Under the
10 Preferred Alternative, frontage roads would be constructed for both I-45 and I-610 at this
11 interchange, which would allow for more efficient access to and from Northside/Northline.

12 Overall, the proposed improvements under the Preferred Alternative would slightly change
13 access and travel patterns for Northside/Northline drivers. The removal of the I-45
14 southbound exit ramp to Crosstimbers Street would require drivers from this portion of
15 Northside/Northline to exit sooner to Airline Drive, passing through an additional signalized
16 intersection. The removal of the I-45 southbound entrance ramp south of Airline Drive would
17 require drivers to pass through the Crosstimbers Street signalized intersection and use the
18 entrance ramp south of Riggs Road. The removal of the I-45 northbound exit ramp to Airline
19 Drive would require drivers to either exit to Crosstimbers Road, passing through an additional
20 signalized intersection, or to exit farther north to Tidwell Road.

21 The removal of I-45 southbound exit and entrance ramps as well as the removal of the I-45
22 northbound exit ramp to Airline Drive would require Northside/Northline drivers to pass
23 through additional signalized intersections. The addition of the frontage roads through the
24 I-45 and I-610 interchange would provide routes for local traffic to travel through the
25 interchange, rather than using Crosstimbers Drive, Fulton Street, Stokes Street, Airline Drive,
26 Link Road, and Cavalcade Drive.

27 Community facilities in this portion of Northside/Northline—including Houston Community
28 College and North Houston Early College High School located on Fulton Street, schools along
29 Tidwell Road, schools scattered between Little York Road and Parker Road, and places of
30 worship along Little York Road, Parker Road (both west and east of I-45), and Tidwell Road
31 (both west and east of I-45)—would not experience substantial changes in access and travel
32 patterns as a result of the proposed improvements under the Preferred Alternative.
33 Community facilities near Airline Drive may experience minor changes in travel patterns due
34 to the removal of the I-45 exit and entrance ramps that would require drivers to travel through
35 additional signalized intersections.

36 Under the Preferred Alternative, continuous sidewalks would be constructed adjacent to the
37 I-45 southbound and northbound frontage roads, ending where the HB&T railroad tracks pass
38 under I-45. Under the proposed improvements, all I-45 cross streets in Northside/Northline
39 would include sidewalks to accommodate pedestrians. Additionally, the width of the
40 Crosstimbers Street and Tidwell Road cross streets would accommodate bicyclists.

5.5.1.3 *Hidden Valley Super Neighborhood*

Hidden Valley is a triangular-shaped neighborhood located on the west side of I-45, spanning from Blue Bell Road to the intersection of I-45 with North Shepherd Drive and Veterans Memorial Drive. Under the current conditions, drivers traveling southbound on I-45 can access Hidden Valley by exiting to West Mount Houston Road; West Gulf Bank Road; or Veterans Memorial Drive, turning right at the signalized intersections. Drivers traveling northbound on I-45 can access the neighborhood by exiting to West Gulf Bank Road or to West Mount Houston Road, turning left at the signalized underpasses.

Drivers from Hidden Valley can access the I-45 southbound mainlanes via the entrance ramp south of Blue Bell Road; the entrance ramp south of Hidden Valley Drive; and the entrance ramp at Dewalt Street. Drivers from the southern portion of the neighborhood can access the I-45 northbound mainlanes by traveling south on North Shepherd Drive and making a U-turn at Victory Street, using the North Shepherd Drive entrance ramp. Hidden Valley drivers in the central and northern portion of the neighborhood can cross under I-45 via West Gulf Bank Road and use the entrance ramp north of West Gulf Bank Road. Drivers from Hidden Valley can access both Greater Greenspoint and Northside/Northline by traveling across West Gulf Bank Road, and can access Acres Home via Veterans Memorial Drive.

Under the Preferred Alternative, the I-45 southbound exit ramp to West Gulf Bank Road would be removed. In addition, the I-45 southbound entrance ramp south of West Gulf Bank Road and north of Veterans Memorial Drive would be removed. The I-45 northbound exit and entrance ramps between West Mount Houston Road and West Gulf Bank Road would be removed and drivers traveling northbound on I-45 would be required to exit to Gulf Bank Road. To compensate for increased traffic at the Gulf Bank Road signalized intersection, a northbound I-45 intersection bypass would be constructed. An I-45 overpass would be constructed at Blue Bell Road, connecting the neighborhoods on either side of the roadway. In addition, entrance and exit METRO ramps would be constructed near the Veterans Memorial Drive and North Shepherd Drive intersection.

Overall, the proposed improvements under the Preferred Alternative would slightly change access and travel patterns for Hidden Valley drivers. The removal of the I-45 southbound exit ramp to West Gulf Bank Road would require drivers to exit to West Mount Houston Road, traveling through an additional signalized intersection at West Mount Houston Road. Although I-45 northbound drivers would no longer exit to West Mount Houston Road, the I-45 northbound intersection bypass at West Gulf Bank Road would reduce travel times and ease traffic that would have otherwise been congested at the West Gulf Bank Road intersection. The connection of Blue Bell Road across I-45 would allow for greater connectivity between Hidden Valley and Greater Greenspoint.

Community facilities along West Mount Houston Road, including Goodman Elementary School on Deer Trail Drive, would not experience changes in access and travel patterns as a result of the proposed improvements.

Under the Preferred Alternative, continuous sidewalks would be constructed adjacent to the I-45 southbound and northbound frontage roads. Additionally, the width of the West Gulf Bank Road and West Mount Houston Road cross streets would accommodate bicyclists. Under the proposed improvements, the connection of Blue Bell Road under I-45 would allow pedestrians and bicyclists to travel between the northern portion of Hidden Valley and the southern portion of Greater Greenspoint.

5.5.1.4 Acres Home Super Neighborhood

Acres Home is located west of I-45 and is bordered to the east by Veterans Memorial Drive and North Shepherd Drive. Under the current conditions, drivers traveling southbound on I-45 can access Acres Home by exiting to West Gulf Bank Road; North Shepherd Drive; Parker Road and Yale Street; or Tidwell Road, turning right at the signalized intersections. Drivers traveling northbound on I-45 can access the neighborhood by exiting to Tidwell Road; Parker Road and Yale Street; or West Little York Road, turning left at the signalized underpasses.

Drivers from Acres Home can access the I-45 southbound mainlanes by using the entrance ramp at North Shepherd Drive; the entrance ramp north of West Parker Road; or the entrance ramp north of East Tidwell Road. Drivers from the neighborhood can access the I-45 northbound mainlanes by using the entrance ramp at Rosamond Street (south of Parker Road) or the entrance ramp at Rittenhouse Street (south of West Little York Road). Drivers can access the I-45 southbound HOV lane at the Veterans Memorial Drive and North Shepherd Drive intersection. Drivers from Acres Home can access Hidden Valley via Veterans Memorial Drive and can access Northside/Northline via North Shepherd Drive.

Under the Preferred Alternative, the exit and entrance ramps at North Shepherd Drive would be replaced, and Acres Home drivers would continue to be able to access the I-45 mainlanes in much the same way as today. In addition, entrance and exit METRO T-ramps would be constructed near the Veterans Memorial Drive and North Shepherd Drive intersection.

The community facilities within Acres Home—including Osborne Elementary School located on Ringold Street, Mabel B. Wesley Elementary School located on Dillard Street, schools west of West Montgomery Road, and places of worship between North Shepherd Drive and Wheatley Street—would not experience substantial changes to access and travel patterns as a result of the proposed improvements.

Under the Preferred Alternative, continuous sidewalks would be constructed adjacent to the I-45 southbound and northbound frontage roads. Under the proposed improvements, all I-45 cross streets in Acres Home would include sidewalks to accommodate pedestrians. Additionally, the width of the West Little York Road cross street would accommodate bicyclists.

5.5.1.5 Independence Heights Super Neighborhood

Tidwell Road to Airline Drive

Under current conditions, traffic traveling along I-45 northbound and southbound can access residences, businesses, and community facilities in Independence Heights by exiting Tidwell

1 Road or Airline Drive and turning into the northern portion of the neighborhood west of I-45.
2 Drivers can also choose to take Glenburnie Drive via the exit ramp immediately to the north
3 or Victoria Drive via the Airline Drive exit. Drivers from Independence Heights can access I-45
4 via the southbound frontage roads accessible at Tidwell Road, Rogers Street, Burress Street,
5 Glenburnie Drive, Victoria Drive, and Airline Drive. Drivers can currently pass under I-45 along
6 Tidwell Road to travel to and from Independence Heights west of I-45 and Northside/Northline
7 east of I-45.

8 North of Tidwell Road, entrance and exit ramps would be moved minimal distances, and
9 access to Independence Heights via Tidwell Road would remain unchanged. Drivers traveling
10 southbound on I-45 can currently exit north of Victoria Drive to access Independence Heights
11 via Victoria Drive or Airline Drive. The proposed exit ramp location would not allow drivers to
12 turn off of the southbound frontage road onto Glenburnie Drive and into the neighborhood.
13 Drivers traveling northbound on I-45 would continue to access Independence Heights via the
14 underpass at Tidwell Road.

15 Between Tidwell Road and Airline Drive, access to the southbound I-45 frontage road would
16 remain for Tidwell Road, Rogers Street, Burress Street, Glenburnie Street, and Victoria Drive.
17 Traffic would also be able to access the I-45 mainlanes at signalized intersections at Tidwell
18 Road and Airline Drive. Additionally, new southbound frontage road access would be provided
19 at Delz Drive, Gammon Drive, and Bizerte Drive. Drivers wishing to travel northbound from
20 Independence Heights could use the proposed turnaround under I-45 at Victoria Drive to
21 access the northbound frontage road.

22 The new entrance ramp south of Tidwell Road would allow drivers to enter the I-45 mainlanes
23 from Tidwell Road, Rogers Street, and Burress Street; however, traffic traveling from
24 Glenburnie Street and Victoria Drive would be required to travel along the southbound
25 frontage road through the signalized intersections at Airline Drive and Crosstimbers Street
26 before entering the southbound mainlanes.

27 Overall, access to and from I-45 from this portion of Independence Heights would generally
28 improve as a result of the Preferred Alternative. Major cross street access would be
29 maintained, and new access would be created for smaller neighborhood streets such as Delz
30 Drive, Gammon Drive, and Bizerte Drive. Drivers would continue to travel across I-45 in the
31 same manner, and the removal and addition of ramps along this portion of I-45 would not
32 represent a substantial change in access for Independence Heights. Travel patterns may be
33 affected for some drivers, particularly those currently using Victoria Drive or Glenburnie Street
34 to access one of the existing I-45 southbound entrance ramps that are proposed to be
35 removed. These changes would be minor; however, some local neighborhood streets could
36 see traffic volumes increase with the changes in access provided by the Preferred Alternative.

37 The community facilities within this portion of Independence Heights—including Kennedy
38 Elementary on Victoria Drive, High School Ahead Academy and Holy Bible Way Baptist Church

on Tidwell Road, and Victoria Park on Janisch Road—would experience little to no change to access and travel patterns as a result of the proposed improvements.

South of Airline Drive to I-610

Currently, drivers traveling along I-45 northbound and southbound can access Independence Heights via Crosstimbers Street. Southbound I-45 traffic can also access the neighborhood by turning right onto Riggs Road or right onto the I-610 westbound frontage road. The existing I-45 southbound frontage road terminates in a turnaround under I-45 north of the Houston Belt and Terminal railroad crossing. From Independence Heights, drivers can access I-45 via the signalized intersection at Crosstimbers Street or via Riggs Road. Drivers can exit and enter the I-45 HOV lane via the ramps located at the East 40½ Street and Airline Drive intersection. Drivers can also travel across I-45 via the Crosstimbers Street underpass into the Northside/Northline neighborhood.

Under the Preferred Alternative, the northbound and southbound frontage roads would extend through the I-610 interchange. The majority of drivers would continue to use Crosstimbers Drive to travel between Independence Heights and northbound and southbound I-45. Two exit ramps would be removed near Crosstimbers Drive. This change would require drivers to take the southbound exit ramp north of Airline Drive in order to access the signalized intersection at Crosstimbers Drive. Under the proposed improvements, the existing I-45 single HOV lane that accommodates traffic heading northbound and southbound (depending on the time of day) would be widened to include both northbound and southbound MaX lanes. The existing HOV exit and entrance ramps located at the East 40½ Street and Airline Drive intersection would be removed. A southbound I-45 MaX lane exit ramp and a northbound I-45 MaX lane entrance ramp would be constructed north of Stokes Street, connecting to the extended frontage roads. This would require drivers from this portion of Independence Heights to pass under I-45 to access the northbound I-45 MaX lane. Access to Riggs Road via the southbound frontage road would be maintained, and southbound traffic would continue to enter the I-45 mainlanes north of I-610. The existing turnaround under I-45 north of the Houston Belt and Terminal railroad crossing would remain.

Access to and from I-45 from this portion of the neighborhood, which is primarily Crosstimbers Street, would remain largely unchanged with the proposed improvements. Travel patterns would remain largely the same as well, with minor circulation changes and a likelihood of lower traffic volumes at Riggs Road resulting from the removal of two exit ramps and the movement of the existing southbound entrance ramp farther north.

These minor changes in access and travel patterns would not affect the community facilities in this area, including Booker T. Washington High School and Burrus Elementary School.

I-45 and I-610 Interchange

Currently, the I-45 and I-610 interchange only includes mainlanes and connecting ramps and does not include a frontage road system. Under the Preferred Alternative, frontage roads would be constructed for both I-45 and I-610 at this interchange, which would allow for more

1 efficient access to and from the adjacent neighborhoods, including Independence Heights to
2 the northwest, Northside/Northline to the northeast, Greater Heights to the southwest, and
3 Near Northside to the southeast. These improvements would provide routes for local traffic to
4 travel through the interchange using the proposed frontage road system, rather than using
5 Crosstimbers Drive, Fulton Street, Stokes Street, Airline Drive, Link Road, and Cavalcade Drive
6 to maneuver around the I-45 and I-610 interchange. Moving local traffic onto the frontage
7 road system will alleviate the use of neighborhood streets by non-neighborhood traffic.

8 Under the Preferred Alternative, continuous sidewalks would be constructed adjacent to the
9 I-45 southbound and northbound frontage roads, ending where the HB&T railroad tracks pass
10 under I-45. Under the proposed improvements, all I-45 cross streets in Independence Heights
11 would include sidewalks to accommodate pedestrians. Additionally, the width of the
12 Crosstimbers Street, Tidwell Road, and Stokes Street cross streets would accommodate
13 bicyclists.

14 **5.5.2 Segment 2: Impacts to Vehicular Traffic, Pedestrians, and Bicyclists**

15 *5.5.2.1 Greater Heights Super Neighborhood*

16 *I-610 to West Cavalcade Street*

17 Under current conditions, drivers traveling southbound on I-45 can access residences,
18 businesses, and community facilities in this portion of Greater Heights from I-610 to West
19 Cavalcade Street by exiting I-610 west and taking a left at the Airline Drive signalized
20 underpass. Traffic traveling along I-45 northbound and southbound can access this portion of
21 Greater Heights by exiting Cavalcade Street and turning into the northern portion of the
22 neighborhood west of I-45. Drivers from this portion of Greater Heights can access I-45 via
23 the southbound frontage roads accessible at Link Road and Cavalcade Street. Drivers can
24 also access I-45 from the southbound frontage road via the entrance ramp at the I-45 and
25 I-610 interchange. Drivers from this portion of Greater Heights can currently only access the
26 northbound I-45 mainlanes via the Cavalcade Street signalized underpass. Currently, while
27 there are direct connectors between I-45 and I-610, the interchange does not include
28 continuous frontage roads. Drivers travel across the I-45/I-610 interchange along Airline
29 Drive, Stokes Street, Fulton Street, and Cavalcade Street between Independence Heights,
30 Northside/Northline, Near Northside, and Greater Heights. This results in cut-through traffic
31 along these local roads.

32 Under the Preferred Alternative, the southbound exit ramp to Cavalcade Street would be
33 moved a minimal distance, and access to Greater Heights via Cavalcade Street would remain
34 unchanged. The existing southbound entrance ramp at Sylvester Road would be removed.
35 Traffic from this portion of Greater Heights traveling eastbound on I-610 to access the I-45
36 mainlanes would continue to pass through the signalized intersection at Cavalcade Street.

37 Drivers from this portion of Greater Heights would be able to use Link Road to access the
38 northbound frontage roads or the I-45 mainlanes via the proposed northbound entrance ramp
39 at Robert Lee Road. Therefore, drivers would no longer be required to travel south to the

1 signalized underpass at Cavalcade Street to change directions and access the northbound
2 I-45 mainlanes.

3 The proposed I-45 and I-610 frontage roads would be continuous through the I-45/I-610
4 interchange, which would make it easier for southbound traffic to access this portion of
5 Greater Heights via Sylvester Road and Link Road. Drivers from the northern portion of Greater
6 Heights could more easily access the portion of Near Northside north of I-610 via the proposed
7 continuous frontage roads.

8 Overall, access to and from I-45 from this portion of Greater Heights would generally improve
9 as a result of the proposed continuous frontage roads and relocation of the northbound I-45
10 entrance ramp from Cavalcade Street to Robert Lee Road. New access across the interchange
11 would reduce cut-through traffic that currently travels through local roads, including Airline
12 Drive, Stokes Street, Fulton Street, and Cavalcade Street. Major cross street access would be
13 maintained. Drivers would continue to travel across I-45 in the same manner, and the removal
14 and addition of ramps along this portion of I-45 would not represent a substantial change in
15 access for Greater Heights. Travel patterns may be affected for some drivers, particularly
16 those currently using Cavalcade Street to access northbound I-45. Under the Preferred
17 Alternative, these drivers may use Link Road to access the northbound I-45 mainlanes via the
18 relocated entrance ramp, resulting in increased traffic volumes along Link Road. These
19 changes would be minor; however, some local neighborhood streets could see traffic volumes
20 increase with the changes in access provided by the Preferred Alternative.

21 The community facilities, particularly along I-610, would experience improved access within
22 this portion of Greater Heights through the I-45/I-610 interchange as a result of the proposed
23 continuous frontage roads. The remaining community facilities in Greater Heights would
24 experience little to no change to access and travel patterns as a result of the proposed
25 improvements.

26 *South of Cavalcade Street to North Main Street*

27 Currently, drivers traveling southbound on I-45 can access this portion of Greater Heights from
28 south of Cavalcade Street to North Main Street by exiting North Main Street and Houston
29 Avenue. Drivers traveling northbound on I-45 can exit Patton Street and take a left on Patton
30 Street to travel underneath I-45 into Greater Heights. Drivers from this portion of Greater
31 Heights can access I-45 via the major intersections at Patton Street and North Main Street as
32 well as from a number of local streets, including Gardner Street and Melwood Street. Drivers
33 can travel across I-45 via the Patton Street, Cottage Street, and North Main Street overpasses.
34 Drivers can access the I-45 mainlanes from the southbound frontage roads via the entrance
35 ramp at Cavalcade Street or Patton Street. Drivers can access the I-45 mainlanes from the
36 northbound frontage road via the entrance ramp at North Main Street or the entrance ramp
37 at Cavalcade Street.

Under the Preferred Alternative, the existing southbound I-45 entrance ramp past Cavalcade Street and the northbound I-45 exit ramp to Cavalcade Street and Link Road would be moved a minimal distance, and access to Greater Heights would remain unchanged.

The I-45 exit ramps between Patton Street and North Main Street would be removed. Drivers traveling southbound on I-45 would need to take the Cavalcade Street and Patton Street exit to access the portion of Greater Heights south of Cavalcade Street. This would require drivers to exit to the frontage roads and pass through the signalized intersection at Cavalcade Street. The removal of the northbound Patton Street exit ramp would require drivers to use either the North Main Street and Houston Avenue exit or the Cavalcade Street exit to access Greater Heights. This would reduce the amount of through-traffic along Patton Street.

Additionally, the I-45 entrance ramps from Patton Street to North Main Street would be removed. The removal of the southbound entrance ramp at Patton Street would require drivers to travel through the signalized North Main Street intersection to access the southbound I-45 mainlanes via the entrance ramp past the intersection. The removal of the northbound North Main Street entrance ramp would require drivers accessing northbound I-45 from this portion of Greater Heights south of Patton Street to travel farther along the frontage road, passing through the signalized intersection at Cavalcade Street.

Overall, the removal of entrance and exit ramps would change the flow of traffic between I-45 and Greater Heights. In some instances, drivers traveling along the frontage roads would be required to pass through signalized intersections before accessing the I-45 mainlanes. As a result of these changes, through-traffic along Patton Street as well as North Main Street could decrease. Major cross street access would be maintained, and drivers would continue to travel across I-45 in the same manner as they do today.

There are three community facilities along Patton Street, including Browning Elementary School, Montie Beach Park and Community Center, and Emmanuel Baptist Church. Drivers traveling northbound and southbound on I-45 to access these community facilities would no longer exit Patton Street. Instead, drivers would exit Main Street, which could increase traffic along this road. The remainder of community facilities within this portion of Greater Heights would generally be accessed in much the same way as they do today.

South of North Main Street to I-10

Currently, drivers traveling southbound on I-45 can access this portion of Greater Heights by exiting Quitman Street. Drivers traveling northbound on I-45 can access the neighborhood by exiting North Main Street and taking a left across I-45 via the North Main Street overpass. Drivers from the Greater Heights neighborhood can access I-45 southbound from the entrance ramp past North Main Street and I-45 northbound from the entrance ramp at Quitman Street. Drivers can travel east across I-45 at North Main Street, North Street, and White Oak Drive/Quitman Street into Near Northside. Drivers have access to and from the I-45 HOV lane, where traffic flows either northbound or southbound (depending on the time

of day) from the entrance/exit ramp at White Oak Drive/Quitman Street). Frontage roads are not present along the portion of I-45 from North Main Street to I-10.

Under the Preferred Alternative, the southbound exit ramp to North Main Street would be removed to the north of this portion of Greater Heights. Therefore, drivers on I-45 southbound would be required to exit at the Cavalcade Street and Patton Street exit and pass through the signalized intersection at Cavalcade Street to reach the neighborhood.

Additionally, the single HOV lane that currently accommodates northbound and southbound traffic (depending on the time of day) would be widened to include both northbound and southbound MaX lanes. These changes would require the removal of the ramp between the current I-45 HOV lane and White Oak Drive/Quitman Street. This would limit access to the proposed MaX lanes for drivers from the Greater Heights neighborhood.

Furthermore, the North Street overpass would be removed, requiring drivers in Greater Heights to travel across I-45 on White Oak Drive/Quitman Street or North Main Street. The removal of the overpass would reduce traffic along the portions of North Street to the east and west of I-45.

On the northbound side of I-45, a northbound frontage road would be constructed between White Oak Drive/Quitman Street and North Main Street. Additionally, the northbound entrance ramp at White Oak Drive/Quitman Street would be relocated farther north and the northbound exit ramp to North Main Street and Houston Avenue would be relocated farther south. These changes would allow more time for drivers to decelerate and accelerate respectively while merging between the I-45 mainlanes and frontage road. On the southbound side of I-45, the intersection between Houston Avenue and the southbound entrance ramp past North Main Street would be reconfigured to improve movement through the intersection.

Overall, travel patterns to and from I-45 from this portion of Greater Heights would be made more efficient as a result of the Preferred Alternative. The removal of the North Street overpass would not represent a substantial change as drivers would maintain access across I-45 at North Main Street and White Oak Drive/Quitman Street. Travel patterns may be affected for some drivers, particularly those accessing the existing southbound I-45 exit ramp to North Main Street and Houston Avenue; and those accessing the HOV lane (future MaX lanes) via the ramp at White Oak Drive/Quitman Street. However, these changes would be offset by the improved flow of traffic between this portion of Greater Heights and I-45.

Community facilities south of North Main Street, including Travis Elementary School on Beauchamp Street and Woodland Baptist Church on West Norma Street, may experience changes to access and travel patterns due to the removal of the North Main Street and Houston Avenue exit ramp. Under the Preferred Alternative, drivers on I-45 southbound would be required to use the Cavalcade Street and Patton Street exit and pass through the signalized intersection at Cavalcade Street to reach the neighborhood. Community facilities near the Quitman Street exit ramp—including Woodland Park on Wrightwood Street and Woodland

Community Center on Parkview Street—would experience little to no change to access and travel patterns as a result of the proposed improvements.

Under the Preferred Alternative, continuous sidewalks would be constructed adjacent to the I-45 southbound and northbound frontage roads, ending at the intersection of I-45 and Little White Oak Bayou. Under the proposed improvements, all I-45 cross-streets in Greater Heights would include sidewalks to accommodate pedestrians. TxDOT will provide improved pedestrian-bicycle accommodations on the North Main Street bridge for travel between Greater Heights and Near Northside. TxDOT proposes an opening at the Little White Oak Bayou crossing at I-45 south of North Street that provides an opportunity for a trail to connect Woodland Park in Greater Heights and Moody Park in Near Northside, which does not exist today. Additionally, the width of the Cavalcade Street, Link Road, and Patton Street cross-streets would accommodate bicyclists.

5.5.2.2 Near Northside (Northside Village)

Houston Belt and Terminal Railway to I-610

Currently, drivers traveling southbound on I-45 can access the HB&T railroad tracks to I-610 portion of Near Northside by exiting Crosstimbers Street and turning left at the signalized underpass. Additionally, southbound drivers can exit south of Crosstimbers Street to Riggs Road, making a U-Turn under I-45 and turning right onto Riggs Road. From both Crosstimbers Street and Riggs Road, drivers can turn right onto Fulton Street to access this portion of Near Northside as well as to access the portion of Near Northside south of I-610.

Drivers traveling northbound on I-45 can access this portion of Near Northside by exiting Cavalcade Street and merging from the I-45 frontage road to the I-610 frontage road, and then turning left at the Fulton Street signalized intersection. Drivers traveling east on I-610 can access this portion of Near Northside by merging onto I-45 northbound via the direct connector and exiting Crosstimbers Street, turning right at the signalized intersection. Drivers traveling west on I-610 can take the Irvington Boulevard and Fulton Street exit, turning right at either signalized intersection.

Under current conditions, drivers from this portion of Near Northside can access I-45 via the southbound entrance ramp at Riggs Road or the northbound entrance ramp at East Burrese Street. Drivers can also use the Irvington Boulevard entrance ramp onto westbound I-610 and take the I-45 northbound connecting ramp to access the I-45 northbound mainlanes. Currently, while there are direct connectors between I-45 and I-610, the interchange does not include frontage roads. This leads to cut-through traffic between Fulton Street, Cavalcade Street, Airline Drive, and Stokes Street. Drivers from this portion of Near Northside can travel across I-610 at Fulton Street and Irvington Boulevard, while drivers can travel across I-45 via Stokes Street.

Under the Preferred Alternative, continuous frontage roads would be constructed for both I-45 and I-610 at this interchange. This could in turn result in a reduction in cut-through traffic along Fulton Street, and lead to more efficient access between Greater

1 Heights/Independence Heights and this portion of Near Northside. Overall, access to and from
2 I-45 from this portion of Near Northside would generally improve as a result of the proposed
3 improvements.

4 The community facilities in this portion of Near Northside—including Roosevelt Elementary
5 School on Fulton Street—would experience improved access across the I-45/I-610
6 interchange as a result of the proposed continuous frontage roads.

7 *I-610 to Cavalcade Street*

8 Under current conditions, drivers traveling southbound on I-45 can access the I-610 to
9 Cavalcade Street portion of Near Northside by exiting Cavalcade Street and turning left or
10 making a U-Turn at the signalized underpass. Drivers traveling northbound can also access
11 this portion of Near Northside by exiting Cavalcade Street.

12 Currently, drivers from this portion of Near Northside can access I-45 by turning left at either
13 the underpass at Link Road or the signalized underpass at Cavalcade Street in order to use
14 the I-45 frontage road to take the southbound entrance ramp at Cavalcade Street. Drivers
15 from this portion of Near Northside can access I-45 via the northbound entrance ramp at
16 Cavalcade Street.

17 Under the Preferred Alternative, the proposed I-45 and I-610 frontage roads would be
18 continuous through the I-45/I-610 interchange, which would allow easier access into this
19 portion of Near Northside. Additionally, the I-45 northbound entrance ramp at Cavalcade
20 Street would be moved to Robert Lee Road, allowing for more efficient access from this portion
21 of Near Northside to the I-45 northbound mainlanes. The southbound exit ramp at Cavalcade
22 Street would be moved a minimal distance, and access to Near Northside via Cavalcade Street
23 would remain unchanged.

24 Overall, access to and from I-45 from this portion of Near Northside would generally improve
25 as a result of the proposed continuous frontage roads and relocation of the northbound I-45
26 entrance ramp from Cavalcade Street to Robert Lee Road. Various community facilities along
27 Fulton Street as well as Jefferson Elementary School on Sharman Street would experience
28 improved access as a result of the proposed continuous frontage roads. Additionally, the
29 community facilities along Fulton Street may also see a reduction in cut-through traffic as a
30 result of the Preferred Alternative.

31 *South of Cavalcade Street to North Main Street*

32 Under current conditions, traffic traveling southbound on I-45 can access the Cavalcade
33 Street to North Main Street portion of Near Northside by exiting North Main Street and
34 Houston Avenue and turning left at the North Main Street signalized underpass. Drivers
35 traveling northbound on I-45 can use the Patton Street exit to access this portion of Near
36 Northside.

37 Drivers from Near Northside can currently access southbound I-45 via either Cavalcade Street
38 or Patton Street. From the signalized underpass at Cavalcade Street, drivers can turn left and

1 immediately use the entrance ramp at Cavalcade Street. From the underpass at Patton Street,
2 drivers can turn left and merge onto the northbound I-45 frontage road, using the entrance
3 ramp at Fugate Street. Drivers from this portion of Near Northside can travel across I-45 at
4 Patton Street, Cottage Street, and North Main Street to access Greater Heights.

5 Under the Preferred Alternative, the existing I-45 exit ramps from Patton Street to North Main
6 Street would be removed. Drivers traveling southbound on I-45 would be required to take the
7 Cavalcade Street and Patton Street exit, merging onto the southbound frontage road and
8 taking a left at Cavalcade Street, Patton Street, Cottage Street, or North Main Street in order
9 to access this portion of Near Northside. Drivers traveling northbound on I-45 would be
10 required to use either the North Main Street exit or the Cavalcade Street exit.

11 The existing I-45 entrance ramps from Patton Street to North Main Street would also be
12 removed. Southbound drivers from Near Northside would be required to pass under I-45 and
13 use either the entrance ramp at Cavalcade Street or the entrance ramp south of North Main
14 Street. Northbound drivers would need to enter the I-45 frontage road, passing through the
15 signalized intersection at Cavalcade Street, and entering the I-45 mainlanes via the entrance
16 ramp at Robert Lee Road.

17 Overall, the removal of entrance and exit ramps between Patton Street and North Main Street
18 would change the flow of traffic between I-45 and Near Northside. In some instances, drivers
19 traveling along the frontage roads would be required to pass through signalized intersections
20 at North Main Street and Cavalcade Street before accessing the I-45 mainlanes. As a result
21 of these changes, through-traffic along West Patton Street as well as North Main Street could
22 decrease. Major cross street access would be maintained, and drivers would continue to
23 travel across I-45 in the same manner.

24 There are community facilities in this portion of Near Northside that are adjacent to North
25 Main Street, including Hollywood Cemetery, Holy Cross Cemetery, and Moody Park. Drivers
26 accessing these community facilities would need to exit to the I-45 southbound frontage road,
27 passing through the signalized intersection at Cavalcade Street, and turning left at North Main
28 Street. Drivers traveling northbound on I-45 would still be able to use the North Main Street
29 exit to access these facilities. The proposed continuous frontage roads at the I-45 and I-610
30 interchange could serve to increase connectivity between Near Northside and adjacent
31 neighborhoods, allowing more efficient access to community facilities in this portion of Near
32 Northside.

33 *South of North Main Street to Southern Pacific Railroad*

34 Currently, drivers traveling southbound on I-45 can access the North Main Street to Southern
35 Pacific Railroad portion of Near Northside by exiting White Oak Drive/Quitman Street and
36 turning left at the intersection. Drivers traveling northbound on I-45 can access this portion of
37 Near Northside by taking the North Main Street and Houston Avenue exit. Drivers traveling
38 eastbound on I-10 can use the direct connector to northbound I-45 and take the North Main
39 Street exit.

1 Under current conditions, drivers from this portion of Near Northside can use either the
2 entrance ramp at White Oak Drive/Quitman Street or the entrance ramp at North Main Street
3 to access the northbound I-45 mainlanes. To access the southbound I-45 mainlanes, drivers
4 from this portion of Near Northside can turn left at North Main Street and use the entrance
5 ramp south of North Main Street. Currently, drivers from this portion of Near Northside can
6 access the westbound I-10 mainlanes by turning left onto the ramp at Quitman Street.
7 Additionally, drivers can turn left at North Main Street and use the entrance ramp south of
8 North Main Street to access the direct connector to westbound I-10. Drivers from this portion
9 of Near Northside have access across I-45 into the neighboring Greater Heights area at North
10 Main Street, North Street, and White Oak Drive/Quitman Street.

11 Under the Preferred Alternative, the single HOV lane that currently accommodates I-45
12 northbound and southbound traffic (depending on the time of day) would be widened to
13 include both northbound and southbound MaX lanes. These changes would require the
14 removal of the ramp between the current I-45 HOV lane and White Oak Drive/Quitman Street.
15 This would limit access to the proposed MaX lanes for drivers from Near Northside. The North
16 Street overpass would also be removed, requiring drivers in Near Northside to travel across
17 I-45 via White Oak Drive/Quitman Street or North Main Street. The removal of the overpass
18 would reduce traffic along the portions of North Street to the east and west of I-45.

19 On the northbound side of I-45, a northbound frontage road would be constructed between
20 White Oak Drive/Quitman Street and North Main Street. Additionally, the northbound entrance
21 ramp at White Oak Drive/Quitman Street would be relocated farther north and the northbound
22 exit ramp to North Main Street and Houston Avenue would be relocated farther south. These
23 changes would allow more time for drivers to decelerate or accelerate while merging between
24 the I-45 mainlanes and frontage road. On the southbound side of I-45, the
25 intersection between Houston Avenue and the southbound entrance ramp past North Main
26 Street would be reconfigured to improve movement through the intersection. Additionally, the
27 I-10 westbound exit ramp to Main Street would be moved to Elysian Street.

28 Overall, travel patterns to and from I-45 from this portion of Near Northside would be made
29 more efficient as a result of the Preferred Alternative. The removal of the North Street
30 overpass would not represent a substantial change as drivers would maintain access across
31 I-45 at North Main Street and White Oak Drive/Quitman Street. Travel patterns may be
32 affected for some drivers, particularly those accessing the existing southbound I-45 exit ramp
33 to North Main Street and Houston Avenue, and those accessing the HOV lane (future MaX
34 lanes) via the ramp at White Oak Drive/Quitman Street. However, these changes would be
35 offset by the improved flow of traffic.

36 The community facilities in this portion of Near Northside—including Hogg Park and the Leonel
37 Castillo Community Center on South Street—would experience little to no change to access
38 and travel patterns as a result of the proposed improvements.

Under the Preferred Alternative, continuous sidewalks would be constructed adjacent to the I-45 southbound and northbound frontage roads, ending at the intersection of I-45 and Little White Oak Bayou. TxDOT will provide improved pedestrian-bicycle accommodations on the North Main Street bridge for travel between Near Northside and Greater Heights. TxDOT proposes an opening at the Little White Oak Bayou crossing at I-45 south of North Street that provides an opportunity for a trail to connect Moody Park in Near Northside and Woodland Park in Greater Heights, which does not exist today. Under the proposed improvements, all I-45 cross streets in Near Northside would include sidewalks to accommodate pedestrians. Additionally, the width of the Link Road, Cavalcade Street, and Patton Street cross streets would accommodate bicyclists. TxDOT will maintain communication with Near Northside neighborhood and Travis Elementary School regarding the schedule for demolition of the North Street bridge and will ensure safe pedestrian-bicycle facilities are provided at North Main Street during construction.

5.5.3 Segment 3: Impacts to Vehicular Traffic, Pedestrians, and Bicyclists

5.5.3.1 Washington Avenue Coalition/Memorial Park Super Neighborhood I-10 to the UPRR Crossing South of Dart Street

Under the current conditions, drivers traveling southbound on I-45 can access the portion of Washington Avenue Coalition/Memorial Park from I-10 to the UPRR crossing south of Dart Street by exiting I-10 west, continuing on I-10 West, exiting to Taylor Street, and taking a left on Taylor Street into the neighborhood. Drivers from the neighborhood can access I-45 northbound and southbound by taking the eastbound I-10 entrance ramp at Taylor Street and continuing on I-10 to take either the Dallas exit to I-45 North or the Galveston exit to I-45 South, respectively. Drivers from the neighborhood travel across I-45 into Near Northside using a major roadway, Crockett Street/Hogan Street, and into Downtown using an arterial roadway, Dart Street. Drivers from the neighborhood travel across I-10 to access the Greater Heights neighborhood at two major roadways, Taylor Street and Houston Avenue. Taylor Street also provides access to and from I-10.

Under the Preferred Alternative, drivers would travel between this portion of Washington Avenue Coalition/Memorial Park and I-45 in much the same way as today. Entrance and exit ramps would be maintained and new flyover ramps would connect the proposed I-10 HOV lanes and I-45 proposed MaX lanes. Overall, access to and from I-45 from this portion of Washington Avenue Coalition/Memorial Park would generally not change.

The community facilities within this portion of Washington Avenue Coalition/Memorial Park—including Crockett Elementary on Crockett Street, Memorial Park in the western portion of the neighborhood, and a number of places of worship located to the west of Sawyer Street—would experience little to no change to access and travel patterns as a result of the proposed improvements.

1 *UPRR Crossing South of Dart Street to Buffalo Bayou*

2 Under current conditions, Houston Avenue, a major north-south collector road in the portion
3 of Washington Avenue Coalition/Memorial Park from the UPRR crossing located south of Dart
4 Street to Buffalo Bayou, provides direct access to I-45. Additionally, a major east-west collector
5 road in this portion of Washington Avenue Coalition/Memorial Park (Memorial Drive) provides
6 indirect access to I-45 (via Washington Avenue and Bagby Street). Drivers from this portion of
7 Washington Avenue Coalition/Memorial Park have access across I-45 into Downtown at
8 Franklin Street, Preston Street, and Memorial Drive.

9 Drivers traveling southbound on I-45 can access Washington Avenue by taking the Beaumont
10 exit to I-10 East, continuing in the left-hand lanes to take the Milam Street exit, and continuing
11 on Milam Street to take a left on Franklin Street, and traveling under I-45 to merge onto
12 Washington Avenue. Drivers traveling southbound on I-45 in the HOV lane can exit to Smith
13 Street, and continue on Smith Street to take a left on Franklin Street. Drivers can then
14 continue on Franklin Street to travel under I-45 and merge onto Washington Avenue. Drivers
15 traveling northbound on I-45 can take the Houston Avenue and Memorial Drive exit to
16 continue onto Houston Avenue (north-south roadway), which intersects Memorial Drive
17 (east-west roadway) into the neighborhood. Drivers traveling northbound on I-45 can also
18 access this portion of the neighborhood by first taking the Allen Parkway exit to continue
19 westbound on Allen Parkway located south of Buffalo Bayou in the Fourth Ward neighborhood.
20 Drivers traveling westbound on Allen Parkway can then take a right at Sabine Street, Montrose
21 Boulevard, or Waugh Drive to travel across Buffalo Bayou into the neighborhood.

22 Drivers in this portion of the neighborhood can access I-10 to the north using the direct
23 connector that consists of northbound and southbound HOV lanes and extends from I-10 at
24 Studewood Street to Franklin Street where it passes under I-45.

25 Drivers from this portion of the neighborhood can access northbound I-45 by traveling
26 eastbound on Washington Avenue and merging onto Franklin Street, then taking a left on
27 Travis Street and merging onto the I-45 mainlanes. Drivers can access northbound I-45 by
28 traveling eastbound on Memorial Drive and turning right onto Bagby Street; then turning right
29 onto Walker Street and taking the Dallas entrance to I-45 North. Drivers from this portion of
30 the neighborhood can access I-45 by traveling south across Buffalo Bayou at Sabine Street,
31 Montrose Boulevard, or Waugh Drive to turn left on Allen Parkway, and can continue
32 eastbound on Allen Parkway to take the I-45 North entrance ramp or the I-45 South entrance
33 ramp to enter the I-45 mainlanes.

34 The Preferred Alternative would reconstruct all the existing interchanges in the Downtown
35 Loop System and reroute I-45 to be parallel to I-10 on the north side of Downtown and parallel
36 to US 59/I-69 on the east side of Downtown. I-10 express lanes (two lanes in each direction)
37 would be located generally in the center of the general purpose lanes within the proposed
38 parallel alignment of I-10 and I-45 on the north side of Downtown. The I-10 express lanes
39 (MaX lanes) would vary between being elevated and at-grade. The existing elevated I-45

1 roadway (to be referred to as the Pierce Elevated) along the west and south sides of Downtown
2 would be removed. Access to the west side of Downtown would be provided via Downtown
3 Connectors. To the north, the Downtown Connectors would include connections from
4 southbound I-10, from southbound I-45, to northbound I-45, to eastbound I-10, and from
5 westbound I-10. To the south, the Downtown Connectors would include connections to
6 westbound Pease Street and from eastbound Jefferson Street.

7 The removal of the existing Pierce Elevated would change travel patterns for drivers in this
8 portion of the neighborhood currently accessing this stretch of I-45. These drivers would be
9 required to travel along Pierce Street, which is not access controlled, to travel to and from this
10 portion of the neighborhood and US 59/I-69.

11 The direct connector consisting of I-10 HOV lanes from I-10 at Studewood Street to Franklin
12 Street would be removed. The proposed new direct connectors would provide access to and
13 from the I-10 MaX express lanes for this portion of the neighborhood. Drivers from the
14 neighborhood would be able to access these direct connectors using the exit ramp to Smith
15 Street, the exit ramp at McKinney Street, the entrance ramp at Walker Street, and the
16 entrance ramp at Allen Parkway.

17 The I-45 entrance and exit ramp to Travis Street, the I-45 entrance ramp from Walker Street,
18 and the I-45 exit ramp to McKinney Street would be accessed in much the same way as today.
19 However, the Preferred Alternative would change the way drivers travel to and from I-45
20 between Memorial Drive and Allen Parkway.

21 The Preferred Alternative would remove the northbound I-45 exit to Houston Avenue and
22 Memorial Drive and the entrance ramp to I-45 South from Allen Parkway; and would extend
23 Houston Avenue to the south from Memorial Drive to Allen Parkway. The new intersection with
24 Allen Parkway would provide new access from both Houston Avenue and Memorial Drive to a
25 new I-45 North entrance ramp along Allen Parkway that does not currently exist. While the
26 northbound I-45 exit ramp to Houston Avenue and Memorial Drive would be removed, less
27 traffic would be anticipated to flow from the south due to the relocation of portions of I-45
28 mainlanes.

29 Drivers from this portion of the neighborhood traveling across I-45 and between I-10 and I-45
30 north of Allen Parkway would not experience a substantial change in travel patterns. Travel
31 patterns would improve for drivers using Allen Parkway via Memorial Drive to access I-45 due
32 to the Houston Avenue improvements. Major cross street access would be maintained, and
33 the removal of entrance and exit ramps would not represent a substantial change in access
34 for the neighborhood.

35 The relocation of I-45 mainlanes from south of the I-45/I-10 interchange would leave Pierce
36 Street, which is not access controlled, as the primary roadway between I-45 and US 59/I-69
37 in areas southeast of this portion of the neighborhood. Instead of accessing Pierce Street, it
38 is likely drivers from the portion of Washington Avenue Coalition/Memorial Park from the
39 UPRR crossing located south of Dart Street to Buffalo Bayou would choose to first travel north

1 to the I-45/I-10 interchange, and continue to take the corresponding exit to access I-45 or
2 I-10 eastbound, and continue eastbound on I-45 or I-10 to exit US 59/I-69 South.

3 The community facilities within this portion of Washington Avenue Coalition/Memorial Park—
4 particularly community facilities along Memorial Drive (Buffalo Bayou Park, Lee and Joe Skate
5 Park, Spotts Park, Fonde Community Center, and Glenwood and Washington cemeteries)—
6 would be accessed in a different manner as a result of the proposed improvements. While
7 traffic would flow to and from I-10 and I-45 in a similar manner, it is likely that less traffic
8 would flow to and from the neighborhood and US 59/I-69 via Pierce Street. However, these
9 changes would not be expected to affect the frequency with which these community facilities
10 are accessed by members of the community.

11 Under the Preferred Alternative, the Houston Avenue and the Crockett Street/Hogan Street
12 cross streets would include sidewalks to accommodate pedestrians and would be widened to
13 accommodate bicyclists. The Allen Parkway cross street with the existing I-45 (and proposed
14 Downtown Connector) would also include sidewalks to accommodate pedestrians.

15 *5.5.3.2 Greater Fifth Ward Super Neighborhood*

16 *Collingsworth Street to I-10*

17 Under current conditions, drivers traveling southbound on US 59/I-69 can access residences,
18 businesses, and community facilities in the portion of Greater Fifth Ward from Collingsworth
19 Street to I-10 by exiting to Collingsworth Street or Quitman Street and Lyons Avenue and
20 turning left at the signalized underpasses. Drivers traveling northbound on US 59/I-69 can
21 access this portion of the neighborhood by exiting to Lyons Avenue and Quitman Street or
22 Collingsworth Street and turning right at the signalized intersections or onto other local
23 streets. Drivers traveling eastbound on I-10 can access this portion of Greater Fifth Ward by
24 exiting to either Waco Street or Lockwood Drive and turning left at the signalized overpasses,
25 or by using the northbound US 59/I-69 direct connector and exiting to Collingsworth Street.
26 Eastbound I-10 drivers can access the portion of the neighborhood that is located west of US
27 59/I-69 by either exiting to McKee Street and Hardy Street and passing over I-10 at the
28 signalized overpasses, or by exiting to Jensen Drive and passing under US 59/I-69 and over
29 I-10. Drivers traveling westbound on I-10 can access this portion of the neighborhood by
30 exiting to Lockwood Drive or to Waco Street. Drivers accessing the portion of Greater Fifth
31 Ward that is located west of US 59/I-69 can exit to Waco Street and continue along Market
32 Street, turn right on the northbound US 59/I-69 frontage road, and turn left at the Lyons
33 Avenue signalized underpass.

34 Currently, drivers from this portion of Greater Fifth Ward can access the southbound US
35 59/I-69 mainlanes by using the entrance ramp located south of Collingsworth Street, the
36 entrance ramp located north of Quitman Street, or the entrance ramp located south of Lyons
37 Avenue. Drivers from this portion of the neighborhood can access the northbound US 59/I-69
38 mainlanes by using the entrance ramp located north of Quitman Street/Liberty Road or the
39 entrance ramp north of Collingsworth Street. Drivers from this portion of the Greater Fifth

1 Ward can access the eastbound I-10 mainlanes by using the entrance ramp east of Gregg
2 Street, the entrance ramp east of Waco Street, or the entrance ramp east of Lockwood Drive.
3 Drivers from the portion of the neighborhood that is located west of US 59/I-69 can travel
4 across I-10 and US 59/I-69 via Jensen Drive and turn left on Nance Street, using the entrance
5 ramp east of Gregg Street. Drivers from this portion of the neighborhood can access the
6 westbound I-10 mainlanes by using the entrance ramp west of Lockwood Drive or the
7 entrance ramp west of Waco Street, or by traveling along Lyons Avenue and using the entrance
8 ramp at McKee Street.

9 Under the Preferred Alternative, I-45 would be rerouted to parallel I-10 on the north side of
10 Downtown and parallel US 59/I-69 on the east side of Downtown. An eastbound I-10 exit ramp
11 with direct access to Gregg Street would be constructed, and the Jensen Drive
12 intersection with Nance Street under the US 59/I-69 and I-10 interchange would be improved.
13 Additionally, the eastbound I-10 entrance ramp east of Gregg Street would be removed, and
14 a continuous eastbound I-10 frontage road would connect from Main Street to Waco Street.
15 Overall, access to and from I-10 and US 59/I-69 from this portion of Greater Fifth Ward would
16 not change in a substantial manner. However, the eastbound I-10 continuous frontage road,
17 Jensen Drive intersection improvements, and proposed exit ramp to Gregg Street would
18 improve traffic flow in the portion of Greater Fifth Ward south of I-10 and east of Jensen Drive,
19 an area which is currently undergoing rapid development.

20 Community facilities in this portion of Greater Fifth Ward—including Boyce-Dorian Park, the
21 Julia C Hester House Inc. (Community Center), Atherton Elementary School located on Solo
22 Street; Mickey Leland College Preparatory Academy for Young Men located on Gregg Street;
23 Brewster Park located on Des Chaumes Street; Tuffly Park located on Russell Street; and
24 places of worship scattered between Lyons Avenue and I-10—would experience minor
25 changes in access and travel patterns as a result of the proposed improvements. The majority
26 of access and travel pattern changes in this portion of Greater Fifth Ward would be positive,
27 and any inconveniences associated with slightly increased travel times would be offset by the
28 improvements in traffic flow overall.

29 *I-10 to Buffalo Bayou*

30 Under current conditions, drivers traveling southbound on US 59/I-69 can access the portion
31 of Greater Fifth Ward from I-10 to Buffalo Bayou by exiting to Quitman Street and Lyons
32 Avenue, taking a right at the Lyons Avenue signalized intersection, and turning left onto Jensen
33 Drive to travel over I-10 and under US 59/I-69. Drivers can also use the direct connector from
34 southbound US 59/I-69 to eastbound I-10 and exit to either Waco Street or Lockwood Drive.
35 Drivers traveling northbound on US 59/I-69 can access this portion of Greater Fifth Ward by
36 merging onto the northbound US 59/I-69 direct connector and exiting to Lyons Avenue.
37 Drivers can then make a U-turn under US 59/I-69 to merge onto the frontage road and turn
38 left onto Jensen Drive, traveling across I-10 and US 59/I-69 into this portion of the
39 neighborhood. Drivers traveling north on US 59/I-69 can also access this portion of Greater
40 Fifth Ward by merging onto the eastbound I-10 direct connector and exiting to either Waco

1 Street or Lockwood Drive. Drivers traveling eastbound on I-10 can access this portion of the
2 neighborhood by exiting to Jensen Drive, Meadow Street, and Gregg Street; to Waco Street; or
3 to Lockwood Drive. Drivers traveling westbound on I-10 can access this portion of the
4 neighborhood by exiting to Lockwood Drive, Waco Street, or to Gregg Street, Meadow Road,
5 and Jensen Street.

6 Currently, drivers from this portion of Greater Fifth Ward can access the southbound US
7 59/I-69 mainlanes by traveling across the I-10 and US 59/I-69 interchange and using the
8 entrance ramp at Lyons Avenue. Alternatively, drivers can use the entrance ramp west of Waco
9 Street and merge onto the southbound US 59/I-69 direct connector. Drivers from this portion
10 of the neighborhood can access the northbound US 59/I-69 mainlanes by traveling across
11 I-10 via Meadows Street and continuing along the US 59/I-69 frontage road, using the
12 entrance ramp north of Quitman Street and Liberty Road. Drivers can also travel over I-10 via
13 Lockwood Drive or Waco Street and use the entrance ramp at either cross street, merging
14 onto the northbound US 59/I-69 direct connector.

15 Under the Preferred Alternative, I-45 would be rerouted to parallel I-10 on the north side of
16 Downtown and parallel US 59/I-69 on the east side of Downtown. The removal of the entrance
17 ramp east of Gregg Street and the connection of the eastbound I-10 frontage road would
18 require drivers to pass through an additional signalized intersection at Waco Street in order
19 to access the eastbound I-10 entrance ramp east of Waco Street. However, access to and
20 from I-10 and US 59/I-69 from this portion of Greater Fifth Ward would not change in a
21 substantial manner.

22 Community facilities in this portion of Greater Fifth Ward—including Bruce Elementary School
23 on Jensen Drive on Cline Street; Swiney Park and Community Center; places of worship near
24 I-10 including Greater Mt. Olive Missionary Baptist Church on Grove Street and Goodwill
25 Missionary Baptist Church located on Nance Street, and Wheatley High School and Finnigan
26 Park located on Providence Street—would experience little to no change in access and travel
27 patterns as a result of the proposed improvements.

28 Under the Preferred Alternative, continuous sidewalks would be constructed adjacent to the
29 eastbound and westbound I-10 frontage roads. Under the proposed improvements, the width
30 of the Jensen Drive and Meadow Street cross streets with I-10 would accommodate bicyclists.

31 *5.5.3.3 Neartown/Montrose Super Neighborhood*

32 Neartown/Montrose spans from Allen Parkway to US 59/I-69 and is located to the east of
33 Fourth Ward. Under current conditions, drivers traveling southbound on I-45 can access
34 Neartown/Montrose by exiting to Allen Parkway and turning left onto any of the main
35 north-south collector roads in the neighborhood such as Taft Street; Montrose Boulevard;
36 Waugh Drive; Dunlavy Street; and Shepherd Drive. Drivers traveling southbound on I-45 can
37 also exit to Bagby Street and turn right onto local streets or onto major east-west collector
38 roads such as Westheimer Road. Drivers traveling northbound on I-45 can access
39 Neartown/Montrose by exiting left to Allen Parkway. Currently, drivers traveling southbound

1 on US 59/I-69 can access the neighborhood by exiting to either Fannin Street or to Shepherd
2 Drive. Drivers traveling northbound on US 59/I-69 can access Neartown/Montrose by exiting
3 to Greenbriar Drive and Shepherd Drive, passing through the Greenbriar Drive signalized
4 intersection, and turning left at the Shepherd Drive signalized underpass. Northbound drivers
5 can also merge onto Spur 527 and exit at either Richmond Avenue or at Alabama Street,
6 turning left at the signalized intersections.

7 Drivers from Neartown/Montrose can access the I-45 southbound mainlanes by using the
8 entrance ramp at Allen Parkway. Drivers can access I-45 northbound by either crossing under
9 I-45 via Brazos Street and using the entrance ramp at Pease Street or by using the entrance
10 ramp at Allen Parkway. Drivers from the neighborhood can access the southbound US 59/I-69
11 mainlanes by using the entrance ramp at Greenbriar Drive and can access the northbound US
12 59/I-69 mainlanes by crossing under US 59/I-69 and using the entrance ramps at Shepherd
13 Drive. Drivers from the neighborhood travel over Buffalo Bayou via arterial roadways such as
14 Montrose Boulevard; Waugh Drive; and Shepherd Drive to access Washington Avenue
15 Coalition/Memorial Park. Drivers from the neighborhood can travel across US 59/I-69 via
16 Montrose Boulevard, Graustark Street, Mandell Street, Dunlavy Street, Woodhead Street,
17 Hazard Street, and Shepherd Drive to access University Place.

18 Under the Preferred Alternative, the existing interchanges in the Downtown Loop System
19 would be reconstructed. The existing Pierce Elevated along the west and south sides of
20 Downtown would no longer be used, and I-45 would be rerouted to be parallel to I-10 on the
21 north side of Downtown and parallel to US 59/I-69 on the east side of Downtown. Access to
22 the west side of Downtown would be provided via Downtown Connectors. A Section of the
23 Downtown Connectors would be below grade (depressed) between approximately West Dallas
24 Street and Andrews Street. Additionally, the frontage roads that extended from Memorial Drive
25 to Brazos Street would be removed. Houston Avenue would extend south and tie into Heiner
26 Street at Allen Parkway. Southbound lanes would be added from Memorial Drive to Brazos
27 Street and northbound lanes would be added from Dallas Street to Memorial Drive.

28 Two Downtown Connector southbound exit ramps would be constructed: the ramp to Allen
29 Parkway would allow drivers to turn right at Allen Parkway or continue south via Heiner Street
30 in order to access Neartown/Montrose, while the exit ramp to McKinney Street would allow
31 drivers to access Downtown. The I-45 southbound exit ramp to West Dallas Street would be
32 removed, and the southbound Downtown Connector would terminate at Jefferson Street.
33 Neartown/Montrose drivers accessing West Dallas Street would be required to take the Allen
34 Parkway exit and travel through the signalized intersection at Allen Parkway to reach West
35 Dallas Street. The northbound I-45 entrance ramp at Pease Street would be replaced by the
36 entrance of the northbound Downtown Connector. Neartown/Montrose drivers could access
37 this northbound Downtown Connector by traveling along Brazos Street and turning left at the
38 Pease Street signalized intersection. The relocation of ramps along Spur 527 and US 59/I-69
39 would not change travel patterns for the southern portion of the neighborhood.

1 Neartown/Montrose is not adjacent to the I-45 proposed improvements under the Preferred
2 Alternative; however, the neighborhood could experience changes in travel patterns due to
3 the rerouting of I-45 and the removal of the Pierce Elevated. Overall, these changes would
4 primarily affect northbound drivers from I-45, who would exit earlier than under the current
5 condition to access the Neartown/Montrose area and travel along Pierce Street to continue
6 north and use various local streets to travel west into Neartown/Montrose.

7 Since Neartown/Montrose is not adjacent to the proposed improvements, bicyclists and
8 pedestrians in the neighborhood would not be impacted.

9 *5.5.3.4 Fourth Ward Super Neighborhood*

10 Fourth Ward spans from Allen Parkway to Welch Street. Under current conditions, drivers
11 traveling southbound on I-45 can access residences, businesses, and community facilities in
12 Fourth Ward by exiting Dallas Street and Pierce Street and turning into the portion of the
13 neighborhood from Allen Parkway to Victor Street. Drivers traveling southbound on I-45 can
14 take the Allen Parkway exit, which feeds into the westbound lanes on Allen Parkway. Drivers
15 traveling northbound on I-45 can exit Allen Parkway into Fourth Ward. Drivers from Fourth
16 Ward can access I-45 via the entrance ramps to I-45 North and I-45 South along Allen
17 Parkway. Drivers can also access I-45 North via the entrance ramp at Brazos Street. Drivers
18 can currently pass under I-45 along Allen Parkway and under I-45 along Dallas Street to travel
19 to and from Downtown.

20 The Preferred Alternative would reconstruct the existing interchanges in the Downtown Loop
21 System and reroute I-45 to be parallel to I-10 on the north side of Downtown and parallel to
22 US 59/I-69 on the east side of Downtown. I-10 express lanes (two lanes in each direction)
23 would be located in the center of the general purpose lanes within the proposed parallel
24 alignment of I-10 and I-45 on the north side of Downtown. The I-10 express lanes (MaX lanes)
25 would vary between being elevated and at-grade. The existing Pierce Elevated along the west
26 and south sides of Downtown would no longer be used, and access to the west side of
27 Downtown would be provided via Downtown Connectors. To the north, the Downtown
28 Connectors would include connections from southbound I-10, from southbound I-45, to
29 northbound I-45, to eastbound I-10, and from westbound I-10. To the south, the Downtown
30 Connectors would include connections to westbound Pease Street and from eastbound
31 Jefferson Street. A Section of the Downtown Connectors would be below grade (depressed)
32 between approximately West Dallas Street to Andrews Street.

33 The frontage roads that extended from Memorial Drive to Brazos Street, connecting Fourth
34 Ward to Washington Avenue Coalition/Memorial Park, would be removed. The connection
35 between the neighborhoods would be maintained via Houston Avenue, which would extend
36 south and tie into Heiner Street at Allen Parkway with southbound lanes from Memorial Drive
37 to Brazos Street and northbound lanes from Memorial Drive to Dallas Street.

38 The I-45 southbound exit ramp to Allen Parkway would tie into the Houston Avenue and Allen
39 Parkway intersection, allowing drivers to access the eastbound or westbound lanes along

1 Allen Parkway or continue southbound onto Heiner Street. The I-45 southbound exit ramp to
2 Dallas Street and Pierce Street would be removed, and a new exit ramp to Pierce Street would
3 be introduced farther south. Drivers accessing Dallas Street would be required to take the
4 Allen Parkway exit and travel through the signalized intersection at Allen Parkway to reach
5 Dallas Street. The I-45 entrance ramp from Brazos Street would be removed. Drivers in the
6 portion of Fourth Ward south of Dallas Street could access the entrance ramp on Pease Street
7 by traveling south on Heiner Street to take a left on Pierce Street, and continuing on Pierce
8 Street to take a left on Brazos Street, and continuing on Brazos Street to access the I-45
9 northbound entrance ramp.

10 Overall, the neighborhood would experience changes in travel patterns from the removal of
11 the existing Pierce Elevated. This would leave three streets (Pierce Street, St. Joseph Parkway,
12 and Gray Street) as the primary roadways between I-45 and US 59/I-69 in areas southeast of
13 the neighborhood. Access between Fourth Ward and the I-45/I-10 interchange would be
14 maintained. Driving conditions from Fourth Ward to and from the portion of I-45 from Allen
15 Parkway to Brazos Street would improve. The Allen Parkway exit ramp would provide new
16 access to the eastbound side of Allen Parkway and Heiner Street. The removal of the I-45
17 southbound frontage road and changes along Heiner Street would allow drivers within Fourth
18 Ward to travel northbound on Heiner Street via Dallas Street into the adjacent Washington
19 Avenue Coalition/Memorial Park, improving connectivity between the two neighborhoods.

20 The community facilities within this portion of Fourth Ward would not experience substantial
21 changes to access and travel patterns as a result of the proposed improvements. Access to
22 and from the Boys and Girls Club of Greater Houston, located at the Allen Parkway and Heiner
23 Street intersection, would improve from the exit ramp to Allen Parkway. Community facilities
24 accessed via Dallas Street, including two schools associated with HISD (Carnegie Vanguard
25 High School and Gregory Lincoln Educational Center); and two cemeteries (Founders
26 Memorial Cemetery and Beth Israel Cemetery), would experience slight changes in travel
27 patterns. While the removal of the Dallas Street exit ramp would require the drivers to exit
28 Allen Parkway and travel through the signalized intersection at Allen Parkway to reach Dallas
29 Street, the addition of northbound lanes on Heiner Street would increase connectivity between
30 Fourth Ward and Washington Avenue Coalition/Memorial Park.

31 Under the Preferred Alternative, continuous sidewalks would be constructed adjacent to the
32 Downtown Connectors from Allen Parkway to the termination of the Downtown Connectors at
33 St. Joseph Parkway and Pease Street. Under the proposed improvements, the Allen Parkway
34 and West Dallas Street cross streets would include sidewalks to accommodate pedestrians,
35 and West Dallas Street would also be widened to accommodate bicyclists. Additionally, an
36 at-grade crossing would be constructed over the proposed Downtown Connectors at Andrew
37 Street for bike and pedestrian access between the Fourth Ward and Downtown.

5.5.3.5 Midtown Super Neighborhood

Midtown spans from the existing Pierce Elevated to US 59/I-69, and is bordered to the east by SH 288 and US 59/I-69. Under current conditions, traffic traveling along I-45 southbound can access residences, businesses, and community facilities in Midtown by exiting to Dallas Street and Pierce Street. Traffic traveling along I-45 northbound can exit to Pease Street, passing over US 59/I-69. Drivers can then either turn left at Hamilton Street and pass under the US 59/I-69 and I-45 intersection or continue on Pease Street and cross under the Pierce Elevated at any intersection to access Midtown. Traffic traveling along US 59/I-69 southbound can exit to McGowen Street, while traffic traveling along US 59/I-69 northbound can exit to Gray Street and Pierce Street to access Midtown. SH 288 southbound begins at I-45, while traffic traveling along SH 288 northbound can exit to either Elgin Street or to Chenevert Street.

Currently, drivers from Midtown can access the I-45 southbound mainlanes by passing under the US 59/I-69 and I-45 intersection and using the entrance ramp along Pierce Street. Drivers from the southern portion of Midtown can access both I-45 southbound and northbound by using the entrance ramp at San Jacinto Street to merge onto US 59/I-69 northbound, use the direct connector to merge onto SH 288 northbound, and then use either the I-45 southbound or I-45 northbound direct connectors. Midtown drivers can access southbound US 59/I-69 by using the Webster Street entrance ramp or by using Spur 527 to merge onto the US 59/I-69 southbound mainlanes. Drivers can access northbound US 59/I-69 by using the entrance ramp at McGowen Street. Drivers can use the Chenevert Street entrance ramp to access southbound SH 288. Drivers from Midtown can access Downtown by passing under the Pierce Elevated at any intersection, including Main Street, a major north-south roadway. Drivers can access Greater Third Ward via Pierce Street, McGowen Street, and Elgin Street. Drivers can access Museum Park by passing under US 59/I-69 via Main Street, Caroline Street, and Almeda Road.

Under the Preferred Alternative, the Pierce Elevated would no longer be available for use, and I-45 would be rerouted to the east side of Downtown to be parallel to I-10 on the north side of Downtown and parallel to US 59/I-69 on the east side of Downtown. Downtown Connectors would allow traffic to move to and from Midtown, Fourth Ward, and Downtown to I-45 and I-10. The southbound Downtown Connector would allow drivers to continue using the Pierce Street exit to access Midtown. The I-45 northbound exit ramp to Pease Street would be constructed by others.

The US 59/I-69 southbound exit ramp to McGowen Street would be moved to Bell Street and Leeland Street. Additionally, a southbound US 59/I-69 exit ramp would be constructed at Almeda Road, and the US 59/I-69 southbound exit ramp to Fannin Street would be removed. Both southbound and northbound US 59/I-69 frontage roads would be constructed near SH 288. The existing SH 288 northbound exit ramp to Chenevert Street would be removed and traffic would continue to be able to use the Elgin Street exit.

Overall, the neighborhood could experience changes in travel patterns due to the rerouting of I-45 and the removal of the Pierce Elevated. Drivers from Midtown could experience an increase in travel times due to the circuitous route to access I-45 mainlanes. These changes in access and travel patterns could affect the community facilities in this area, including Baldwin Park and Houston Community College, by requiring some drivers to travel longer distances to reach these facilities; however, the frequency to which these community facilities are accessed would not be anticipated to change.

Under the Preferred Alternative, continuous sidewalks would be constructed along the US 59/I-69 southbound frontage road from the US 59/I-69 and I-45 interchange to Holman Street, and along the US 59/I-69 northbound frontage road from Cleburne Street to Hadley Street. The width of the Gray Street, McGowen Street, Tuam Street, Elgin Street, and Alabama Street cross streets with US 59/I-69 would accommodate bicyclists. The existing Pierce Elevated would no longer be used, and the existing cross streets that intersect Pierce Street would be widened to accommodate bicycles.

5.5.3.6 Downtown Super Neighborhood

Downtown Districts

The existing Downtown Loop System consists of three interstate highways that create a loop around Downtown. I-45 forms the western and southern boundaries of the loop. Along the southwest and southern portions of Downtown where I-45 parallels Pierce Street, I-45 is locally referred to as the Pierce Elevated. I-10 forms the northern boundary of the loop, and US 59/I-69 forms the eastern boundary of the loop. The loop includes three major interchanges: I-45 and I-10, I-10 and US 59/I-69, and US 59/I-69 and I-45. Generally, local streets serve as one-way frontage roads in the Downtown area.

The Preferred Alternative would reconstruct all of the existing interchanges in the Downtown Loop System and reroute I-45 to parallel I-10 on the north side of Downtown and parallel US 59/I-69 on the east side of Downtown. Access to the west side of Downtown would be provided via Downtown Connectors (formerly the portion of I-45 between I-10 and Pierce Street) that would consist of entrance and exit ramps for various Downtown streets. The existing Pierce Elevated along the south side of Downtown would no longer be in use. Additional changes would occur along I-45, I-10 and US 59/I-69 and are described in further detail in the following subsections.

Downtown Houston contains a number of distinct districts which includes the following:

- The majority of Downtown is considered to be within the Houston CBD, which begins south of Texas Avenue. According to the City of Houston, Downtown is comprised of various individual districts, including the Historic District, Theatre District, Civic Center District, Shopping District, Skyline District, Warehouse District, Harris County District, Ballpark District, Avenida Houston District, and Southern District. Additionally, Downtown Houston includes the East Downtown Management District

(locally referred to as EaDo), which encompasses the area east of US 59/I-69, north of I-45, and southwest of the UPRR.

- The Historic District, Theatre District, and Civic Center District are located in the northwestern portion of Downtown to the east of I-45 and near Buffalo Bayou. The Historic District surrounds Market Square Park and includes a high concentration of residential buildings and portions of the University of Houston south of I-10. The Theatre District includes a number of theatre venues, parks, and Buffalo Bayou trails. The Civic Center District is the site of the Houston government and includes City Hall, Houston Public Library's Central Library, and an outdoor museum.
- The Warehouse District, Harris County District, and Ballpark District are located in the northeastern portion of Downtown. The Warehouse District straddles I-10 and includes industrial businesses, art studios, a METRO lot, a METRO Station, and portions of the University of Houston. The Harris County District located south of the Warehouse District is the site of the Harris County government, with thousands of Houston citizens visiting daily. The Ballpark District located east of US 59/I-69 includes Minute Maid Park, the baseball field of the Houston Astros, with surrounding commercial businesses and residential buildings.
- The Skyline District located in the southeastern and south-central portions of Downtown includes various multinational businesses and financial institutions housed within towering skyscrapers. Many of the buildings are connected by the Pedestrian Tunnel and Skywalk System. The Shopping District located in the south-central portion of Downtown is surrounded by the Skyline District and includes a number of entertainment venues and restaurants.
- The Avenida Houston District and the Southern District are located in the southeastern portion of Downtown. The Avenida Houston District located west of US 59/I-69 includes the George R. Brown Convention Center, Discovery Green Park, and a number of hotels where events and festivals occur. The Southern District located northwest of the I-45 and US 59/I-69 interchange includes St. Joseph Medical Center, the Sacred Heart Co-Cathedral campus, and a number of residential buildings.
- The East Downtown Management District is located east of US 59/I-69, north of I-45, and southwest of the UPRR. The area is transitioning from Old Chinatown to EaDo due to Downtown expansion. Cantonese Chinese immigrants migrated to the area in the 1930s and began moving to the "new Chinatown" along Bellaire Boulevard in the 1990s. Since the early 2000s, developers have built a number of residential buildings in the area, with many newer residents seeking to rebrand the area as EaDo. The area includes the BBVA Compass Stadium, the home of the Houston Dynamo soccer team.

I-45 Improvements

I-45 serves as the western and southern boundary of Downtown and abuts the Theatre District, Civic Center District, Skyline District, and Southern District. Under current conditions, drivers traveling southbound on I-45 can access Downtown by exiting to McKinney Street, Dallas Street, or Jefferson Street, or by taking the direct connector from I-45 to Milam Street into Downtown. Southbound I-45 drivers can also take the Allen Parkway exit or the Pierce Street and Bagby Street exit, but these exits direct drivers toward Fourth Ward and Midtown rather than Downtown. South of Downtown, drivers can exit SH 288 to head south toward Lake Jackson and Freeport or US 59 to head south toward Victoria. Drivers traveling northbound on I-45 can access the East Downtown Management District and the southern portion of Downtown by traveling along the frontage road (Gulf Freeway); by exiting to the partial loop at Scott Street and turning left at the signalized intersection; or by exiting to Emancipation Avenue. To access the remaining portions of Downtown, northbound I-45 drivers can either exit Emancipation Avenue and use local streets, or travel along the existing Pierce Elevated and exit to Houston Avenue and Memorial Drive.

Currently, drivers from Downtown can access the southbound I-45 mainlanes by traveling under I-45 via Capitol Street (which turns into Memorial Drive) and using the entrance ramp at Houston Avenue. Drivers can also use the entrance ramp at Pierce Street or the partial loop entrance ramp at Scott Street to access the southbound I-45 mainlanes. Drivers from Downtown can access the northbound I-45 mainlanes by using the entrance ramps at Scott Street, Pease Street, or Walker Street. Drivers can also travel under I-10 via Travis Street and merge onto the northbound I-45 mainlanes.

Under the Preferred Alternative, the existing portion of southbound I-45 north of Pierce Street would be replaced by Downtown Connectors, and the Pierce Elevated would no longer be in use. Southbound drivers can use the Downtown Connector to access McKinney Street, Allen Parkway, and Bagby Street.

Drivers would exit from the southbound Downtown Connector and would use entrance ramps to the northbound Downtown Connector. Drivers traveling southbound on the Downtown Connector would continue to be able to exit McKinney Street and Jefferson Street to access Downtown. The southbound Downtown Connector would end at Jefferson Street, allowing drivers to merge onto Jefferson Street directly into Downtown. Whereas southbound I-45 drivers currently merge onto westbound Allen Parkway (away from Downtown), under the proposed improvements drivers could exit to Allen Parkway, merge onto the frontage road, and turn left at the signalized intersection at Allen Parkway to head into Downtown. Under the Preferred Alternative, drivers could access northbound I-45 by merging onto the Downtown Connector's entrance at Pease Street, or by using the entrance ramp at Walker Street. Drivers from Fourth Ward and Midtown would also continue to be able to use the loop entrance ramp at Allen Parkway. Under the Preferred Alternative, MaX lanes to and from I-45 would extend into the northernmost portion of Downtown south of where I-45 and I-10 merge.

I-10 Improvements

I-10 serves as the northern boundary of Downtown and primarily travels through the Warehouse District. Under current conditions, drivers traveling eastbound on I-10 can access the western portion of Downtown by using the direct connector to southbound I-45. Eastbound I-10 drivers can access the northern and central portions of Downtown by exiting to Smith Street, and can access the northeastern portion of Downtown by exiting to McKee Street and Hardy Street via Nance Street. Drivers traveling eastbound on I-10 can access the eastern portion of Downtown as well as the East Downtown Management District by either using the direct connector to southbound US 59/I-69 or by exiting to Jensen Drive, Meadow Street, and Gregg Street and traveling under the US 59/I-69 interchange to turn right onto Jensen Drive and travel over Buffalo Bayou.

Drivers traveling westbound on I-10 can access the eastern portion of Downtown and the East Downtown Management District by exiting to Gregg Street, Meadow Street, and Jensen Drive or by using the southbound US 59/I-69 direct connector. Westbound I-10 drivers can access the northern and central portions of Downtown by exiting to San Jacinto Street and Main Street and traveling under I-10 into the neighborhood and can access the western portion of Downtown by using the southbound I-45 direct connector.

Currently, drivers from the western portion of Downtown can access the eastbound I-10 mainlanes by merging onto northbound I-45 via Pease Street or Walker Street and using the direct connector to eastbound I-10. Drivers from the central portion of Downtown can access the eastbound I-10 mainlanes by traveling north along San Jacinto Street and veering right to Rothwell Street, using the entrance ramp east of Walnut Street. Drivers from the eastern portion of Downtown as well as the East Downtown Management District can access the eastbound I-10 mainlanes by traveling along the eastbound I-10 frontage road and using the entrance ramp at Bringham Street east of Gregg Street.

Drivers from the East Downtown Management District and the eastern portion of Downtown can access the westbound I-10 mainlanes by traveling north along Chartres Street (which parallels northbound US 59/I-69) and using the westbound I-10 direct connector which begins at Runnels Street. Drivers from the northeastern portion of Downtown can travel north along Hardy Street and turn left at Providence Street, using the westbound I-10 entrance ramp at McKee Street. Drivers from the central and western portions of Downtown can either use the entrance ramp at Louisiana Street or use the northbound I-45 entrance ramps at Pease Street and Walker Street to merge onto the westbound I-10 direct connector.

Under the Preferred Alternative, the portion of I-10 between its intersection with I-45 and US 59/I-69 would be realigned slightly north of its current route. Drivers traveling both eastbound and westbound on I-10 who previously used the southbound I-45 direct connector would now use the southbound Downtown Connector to exit to McKinney Street, Allen Parkway, and Jefferson Street to travel into Downtown. Under the proposed improvements, an eastbound I-10 exit ramp with direct access to Gregg Street would be constructed, and the Jensen Drive

1 intersection with Nance Street under the US 59/I-69 and I-10 interchange would be improved.
2 The eastbound I-10 entrance ramp east of Gregg Street would be removed, and a continuous
3 eastbound I-10 frontage road would connect from Main Street to Waco Street. Additionally,
4 the existing westbound I-10 exit ramp to San Jacinto Street and Main Street would be
5 relocated east of the I-10 and US 59/I-69 interchange, allowing drivers to exit to Hardy Street
6 and McKee Street in addition to San Jacinto Street and Main Street. To accommodate drivers
7 traveling northbound on US 59/I-69 who previously used the direct connector to westbound
8 I-10 and exited to San Jacinto Street and Main Street, an additional exit would be constructed
9 from the I-10 westbound direct connector to Hardy Street, McKee Street, San Jacinto Street,
10 and Main Street. Overall, access to and from I-10 from Downtown would generally improve as
11 a result of the proposed improvements.

12 *US 59/I-69 Improvements*

13 US 59/I-69 forms the eastern boundary of Downtown and passes through the Ballpark
14 District, Avenida Houston District, and Southern District. On the east side of US 59/I-69 is the
15 East Downtown Management District (considered part of the Downtown super neighborhood),
16 as well as the Second Ward. Under current conditions, drivers traveling southbound on US
17 59/I-69 can access the northern portion of Downtown by exiting to Quitman Street and Lyons
18 Avenue or by using the eastbound and westbound I-10 direct connectors. Southbound US
19 59/I-69 drivers can access the central portion of Downtown by exiting to Jackson Street.
20 Drivers can access the southern portion of Downtown via the northbound I-45 direct connector
21 and can access the East Downtown Management District via the southbound I-45 direct
22 connector. Drivers traveling northbound on US 59/I-69 can access the southern portion of
23 Downtown by exiting to Gray Street and Pierce Street (south of the US 59/I-69 and I-45
24 interchange) and can access the central portion of Downtown by exiting to Polk Street.
25 Northbound US 59/I-69 drivers can access the northern portion of Downtown by using the
26 westbound I-10 direct connector.

27 Currently, drivers from Downtown can access the southbound US 59/I-69 mainlanes by
28 traveling across I-10 via various cross streets and using the entrance ramp on US 59/I-69
29 south of Lyons Avenue; using the eastbound I-10 direct connector to southbound US 59/I-69;
30 or by using the entrance ramp at Webster Street (south of the US 59/I-69 and I-45
31 interchange). Drivers can directly access the northbound US 59/I-69 mainlanes by using the
32 entrance ramp at Chenevert Street; using the eastbound I-10 direct connector to northbound
33 US 59/I-69; or by traveling north along the US 59/I-69 frontage road and using the entrance
34 ramp north of Liberty Road.

35 Under the Preferred Alternative, the existing westbound I-10 exit ramp to San Jacinto Street
36 and Main Street would be relocated east of the I-10 and US 59/I-69 interchange, allowing
37 westbound I-10 drivers to exit to Hardy Street and McKee Street in addition to San Jacinto
38 Street and Main Street. However, southbound US 59/I-69 drivers who previously used the
39 westbound I-10 direct connector and exited to San Jacinto Street and Main Street would now
40 exit to Quitman Street and Lyons Avenue, merge onto the frontage road, and travel through

1 additional signalized intersections to access the northern portion of Downtown. These drivers
2 could also choose to access eastbound I-10, make a U-turn at Waco Street, and access
3 Downtown via the Hardy Street, McKee Street, San Jacinto Street, and Main Street exits. In
4 general, southbound US 59/I-69 drivers would be required to travel a slightly more circuitous
5 route to access Downtown destinations. Also, under the proposed improvements, a
6 southbound US 59/I-69 exit ramp to Bell Street and Leeland Street would be constructed, and
7 a northbound US 59/I-69 entrance ramp would be constructed north of Leeland Street.
8 Additionally, continuous southbound and northbound frontage roads would be constructed
9 south of Runnels Street through the remainder of Downtown to the US 59/I-69 and I-10
10 interchange.

11 Under the Preferred Alternative, continuous sidewalks would be constructed adjacent to the
12 southbound and northbound Downtown Connectors from Allen Parkway to the termination of
13 the Downtown Connectors at St. Joseph Parkway and Pease Street. Under the proposed
14 improvements, the Allen Parkway and West Dallas Street cross streets would include
15 sidewalks to accommodate pedestrians, and West Dallas Street would also be widened to
16 accommodate bicyclists. Additionally, an at-grade crossing would be constructed over the
17 proposed Downtown Connectors at Andrew Street for bike and pedestrian access between
18 the Fourth Ward and Downtown.

19 Under the Preferred Alternative, the McKee Street and Hardy Street cross streets with I-10
20 would include sidewalks to accommodate pedestrians and would be widened to
21 accommodate bicyclists. The San Jacinto crossing would be relocated to south of the
22 realignment. Continuous sidewalks would be constructed along the US 59/I-69 southbound
23 and northbound frontage roads. Additionally, the Runnels Street and Polk Street connections
24 across US 59/I-69 would be removed, and pedestrians would no longer be able to use these
25 streets to travel across US 59/I-69. The Capitol Street, Rusk Street, and Leeland Street cross
26 streets would include sidewalks to accommodate pedestrians and would be widened to
27 accommodate bicyclists.

28 *5.5.3.7 Second Ward Super Neighborhood*

29 Second Ward is located east of Downtown and US 59/I-69 and is bordered by Buffalo Bayou
30 to the north and the Union Pacific Railroad to the south. Under current conditions, drivers
31 traveling southbound on US 59/I-69 can access the neighborhood by taking the Jackson
32 Street exit, turning left at Ruiz Street or Franklin Street, and passing under US 59/I-69. Drivers
33 traveling northbound on US 59/I-69 can exit to Polk Street, traveling along Chartres Street
34 and passing through numerous signalized intersections until turning right at cross streets
35 such as Texas Avenue (which becomes Harrisburg Boulevard), Franklin Street, and Runnels
36 Street.

37 Drivers travelling northbound or southbound on I-45 must first travel east along I-10 to access
38 the Second Ward. Currently, drivers traveling eastbound on I-10 can access the western
39 portion of Second Ward by merging onto the US 59/I-69 direct connector and taking the

1 Hamilton Street exit. Drivers can then either make a U-turn under US 59/I-69 via Ruiz Street
2 and turn right at Runnels Street or continue on Hamilton Street and turn onto cross streets
3 such as Franklin Street, Preston Street, and Texas Avenue. Drivers traveling eastbound on
4 I-10 can access the eastern portion of Second Ward by exiting to Waco Street or to Lockwood
5 Drive and turning right at the signalized intersections, crossing over Buffalo Bayou into Second
6 Ward. Drivers traveling westbound on I-10 can merge onto the US 59/I-69 southbound direct
7 connector, exit Hamilton Street, and either make a U-turn under US 59/I-69 via Ruiz Street or
8 turn left under US 59/I-69 at Franklin Street to access the neighborhood. Drivers can also exit
9 Wayside Drive, Lockwood Drive, or Hirsch Road to cross over Buffalo Bayou and into Second
10 Ward.

11 Drivers from Second Ward can access the southbound US 59/I-69 mainlanes by traveling
12 south on Emancipation Avenue, turning right at the St. Joseph Parkway signalized
13 intersection and traveling across US 59/I-69. Drivers can then turn left at the Hamilton Street
14 signalized intersection, using the entrance ramp to southbound US 59/I-69 at Webster Street.
15 Alternatively, drivers from the northern portion of Second Ward can enter the US 59/I-69
16 southbound mainlanes by traveling north on Jensen Drive under the US 59/I-69 signalized
17 intersection as well as over I-10, then turning right at Lyons Avenue, and taking the
18 southbound US 59/I-69 entrance ramp south of Lyons Avenue. Drivers from the neighborhood
19 can access the northbound US 59/I-69 mainlanes by traveling along Commerce Street and
20 passing through the signalized underpass, turning right onto Chenevert Street and using the
21 US 59/I-69 northbound entrance ramp at Chenevert Street. Drivers from Second Ward can
22 access the I-10 eastbound and westbound mainlanes by traveling along Chartres Street and
23 either merging onto the I-10 eastbound or the I-10 westbound direct connector. Drivers from
24 Second Ward can use cross streets such as Runnels Street, Franklin Street, and Texas Avenue
25 to access Downtown and can cross over Buffalo Bayou to Greater Fifth Ward via Jensen Drive,
26 Hirsch Road, and Lockwood Drive.

27 Under the Preferred Alternative, I-45 would be rerouted to parallel I-10 on the north side of
28 Downtown and parallel US 59/I-69 on the east side of Downtown (adjacent to and west of
29 Second Ward). Under the proposed improvements, a southbound US 59/I-69 exit ramp to Bell
30 Street and Leeland Street would be added, and a northbound US 59/I-69 entrance ramp
31 would be added at Leeland Street. Drivers from Second Ward would no longer be able to travel
32 under US 59/I-69 to and from Downtown via Runnels Street or Ruiz Street, but drivers would
33 still be able to use cross streets such as Commerce Street, Franklin Street, Congress Street,
34 and Preston Street to travel between Second Ward and Downtown. Drivers would continue to
35 be able to access US 59/I-69 via the entrance ramp at Chartres Street to continue north on
36 US 59/I-69 or access eastbound and westbound I-10.

37 The addition of exit and entrance ramps along US 59/I-69 would not have a substantial impact
38 on Second Ward drivers. Overall, travel patterns in Second Ward would change to a minor
39 degree as a result of the Preferred Alternative, as access to and from US 59/I-69, I-10, and
40 Downtown would be maintained.

Guadalupe Plaza Park, Our Lady of Guadalupe Catholic School and Church, and other community facilities located on Runnels Street may be slightly affected by the removal of the connection of Runnels Street under US 59/I-69. However, other nearby connections to Downtown under US 59/I-69 would remain. Other community facilities in Second Ward—including Marron (Tony) Park located on North York Street, Settegast Park and Community Center located on Garrow Street, Eastwood Park and Community Center located on Harrisburg Boulevard, Baylor College of Medicine Biotech Academy at Rusk located on Garrow Street, Felix Fraga Academic Campus located on Drennan Street, and East Early College High School located on North Milby Street—would experience little to no change in access and travel patterns as a result of the proposed improvements.

Under the Preferred Alternative, the Runnels Street connection across US 59/I-69 would be removed, and pedestrians would no longer be able to travel between Second Ward and Downtown via Runnels Street. Under the proposed improvements, the width of the Commerce Street cross street just south of Second Ward would accommodate bicyclists.

5.5.3.8 University Place Super Neighborhood

University Place spans from US 59/I-69 to North Braeswood Boulevard. The neighborhood is comprised of communities surrounding Rice University, and is adjacent to the Texas Medical Center and Hermann Park. Under current conditions, drivers traveling southbound on Main Street can access residences, businesses, and community facilities in University Place by passing under US 59/I-69 and turning right onto major streets such as Bissonnet Street, Sunset Boulevard, University Boulevard, West Holcombe Boulevard, and Greenbriar Drive, as well as onto smaller local streets. Drivers traveling northbound on Main Street can access University Place by turning left at the signalized intersections onto Greenbriar Drive, West Holcombe Boulevard, University Boulevard, Sunset Boulevard, and Bissonnet Street.

Currently, drivers traveling eastbound on US 59/I-69 can access University Place by exiting to Kirby Drive as well as Greenbriar Drive and Shepherd Drive and turning right at the signalized intersections. Drivers can also exit to Main Street and turn right at the signalized intersection. Drivers traveling westbound on US 59/I-69 can access University Place by exiting to Fannin Street, turning right onto Blodgett Street, and then turning left at the Main Street signalized intersection. Drivers traveling southbound along Spur 527 can access this neighborhood by merging onto westbound US 59/I-69 and exiting to Shepherd Drive and Greenbriar Drive, turning left at either signalized underpass. Drivers traveling southbound along the US-59 HOV lane can access University Place by exiting to Edloe Street and turning left at the signalized intersection.

Drivers from University Place can access the eastbound US 59/I-69 mainlanes by using either the Kirby Drive or Shepherd Drive entrance ramps. Drivers can access the westbound US 59/I-69 mainlanes by using the Greenbriar Drive entrance ramp. Drivers from University Place can use Main Street to pass under US 59/I-69 and enter Neartown/Montrose as well as Midtown, and can use Bissonnet Street/Binz Street to access Museum Park.

1 The replacement of ramps under the Preferred Alternative would not affect travel patterns for
2 University Place in a significant manner. Overall, access to and from US 59/I-69 from
3 University Place would generally not change.

4 The community facilities within University Place—including Rice University located on Main
5 Street, Bell Park located on Montrose Boulevard, Poe Elementary School located on Hazard
6 Street; and Roberts Elementary School located on Greenbriar Drive—would not experience
7 substantial changes to access and travel patterns as a result of the proposed improvements.

8 Under the Preferred Alternative, Main Street would include sidewalks to accommodate
9 pedestrians and would be widened to accommodate bicyclists.

10 *5.5.3.9 Museum Park Super Neighborhood*

11 Museum Park spans from US 59/I-69 to Hermann Drive. The neighborhood contains various
12 museums including the Children’s Museum of Houston; Houston Museum of African American
13 Culture; Holocaust Museum Houston; Czech Center Museum Houston; and Asia Society Texas
14 Center. Museum Park is also adjacent to Hermann Park, a 445-acre urban park which
15 includes the Houston Zoo, Miller Outdoor Theatre, the Houston Museum of Natural Science,
16 and the Hermann Park Golf Course. Under current conditions, drivers traveling southbound
17 on Main Street can access residences, businesses, and community facilities in Museum Park
18 by passing under US 59/I-69 and turning left at signalized intersections such as Wentworth
19 Street, Southmore Boulevard, Binz Street, or the roundabout to Hermann Drive. Alternatively,
20 drivers traveling southbound can use the center left-turn lane along Main Street to access
21 local streets to Museum Park. Similarly, drivers traveling northbound on Main Street can
22 access Museum Park by turning right at any of the intersecting streets with Main Street.

23 Currently, drivers traveling northbound on US 59/I-69 can use the exit ramp at Main Street to
24 access Museum Park. Drivers traveling southbound on US 59/I-69 can access Museum Park
25 by exiting to Fannin Street and passing under US 59/I-69. Drivers traveling southbound on SH
26 288 can access Museum Park by exiting to Southmore Boulevard and turning right at the
27 signalized intersection. Drivers traveling northbound on SH 288 can exit to either Binz Street
28 or to Southmore Boulevard and turn left at the signalized overpasses in order to access the
29 neighborhood.

30 Drivers from Museum Park can use the entrance ramp at San Jacinto Street to enter the
31 northbound US 59/I-69 mainlanes. To access the southbound US 59/I-69 mainlanes, drivers
32 can pass under US 59/I-69 via San Jacinto Street and turn left at Wheeler Avenue/Richmond
33 Avenue; drivers can then pass under 527 Spur and turn left onto the frontage road, merging
34 onto the US 59/I-69 mainlanes. Drivers from the neighborhood can use the entrance ramps
35 at Southmore Boulevard and Hermann Drive to access the southbound SH 288 mainlanes.
36 To enter the northbound SH 288 mainlanes, drivers can use the entrance ramp at Southmore
37 Boulevard. Drivers from Museum Park can also turn left at the North MacGregor Way
38 signalized intersection and use the North MacGregor Way entrance ramp to access the
39 northbound SH 288 mainlanes.

Under the Preferred Alternative, both southbound and northbound US 59/I-69 frontage roads would be constructed near SH 288. A southbound US 59/I-69 exit ramp would be constructed at Alameda Road, and the US 59/I-69 southbound exit ramp to Fannin Street would be removed. Other ramps and direct connectors would be reconstructed but would not represent a substantial change in access for Museum Park. The closed entrance ramp at Blodgett Street would be removed and Blodgett Street would continue to be used by local traffic only.

Overall, access to and from Museum Park would generally improve as a result of the Preferred Alternative. The proposed southbound and northbound frontage roads along US 59/I-69 near SH 288 would improve connectivity between Museum Park, Midtown, and Greater Third Ward. The removal of the southbound US 59/I-69 exit ramp to Fannin Street and construction of the southbound US 59/I-69 exit ramp at Alameda Road would require Museum Park drivers to exit sooner, but would not substantially affect access and travel patterns in the neighborhood.

The proposed continuous frontage roads along US 59/69 near SH 288 would improve access and travel patterns for the community facilities in Museum Park, including MacGregor Elementary School located on La Branch Street; Montessori School of Downtown located on Caroline Street; and churches along Main Street and Fannin Street.

Under the Preferred Alternative, Alameda Road, La Branch Street, Austin Street, Caroline Street, San Jacinto Street, Fannin Street, and Main Street cross streets with US 59/I-69 would include sidewalks to accommodate pedestrians and would be widened to accommodate bicyclists.

5.5.3.10 *Greater Third Ward Super Neighborhood*

Greater Third Ward is located southeast of the existing I-45 and US 59/I-69 interchange and spans to Spur 5 to the east and Blodgett Street to the south. Under the current conditions, drivers traveling south on I-45 can access Greater Third Ward by exiting to Scott Street or to Cullen Boulevard and turning right at the signalized intersections. Drivers traveling north on I-45 can access the neighborhood by exiting to the partial loop at Scott Street and turning right at the signalized intersection, passing under I-45 into the neighborhood. Drivers can also exit to Pease Street and turn left at Emancipation Avenue, passing under I-45 into the neighborhood. Drivers traveling south on US 59/I-69 can access the neighborhood by exiting to McGowen Street and Tuam Street and turning left at the McGowen Street, Tuam Street, and Elgin Street signalized intersections, passing over US 59/I-69 and SH 288. Drivers traveling north on US 59/I-69 can take the Gray Street and Pierce Street exit and turn right at the signalized intersections to access the neighborhood. Drivers traveling north on SH 288 can access Greater Third Ward by exiting to Elgin Street and Tuam Street and turning right at the signalized intersections.

Currently, drivers from Greater Third Ward can access the I-45 southbound mainlanes by using the Pierce Street entrance ramp as well as the entrance ramp at the Hadley Street and Scott Street intersection. Drivers from the neighborhood can access the I-45 northbound mainlanes by traveling under I-45 via Cullen Boulevard, turning left and using the entrance ramp north

1 of Cullen Boulevard. Drivers can also access I-45 northbound by traveling under I-45 via Scott
2 Street and using the entrance ramp at Scott Street. Drivers from the neighborhood can access
3 the US 59/I-69 southbound mainlanes by traveling over US 59/I-69 via Gray Street, turning
4 left at Hamilton Street, and using the entrance ramp at Webster Street. Drivers from the
5 southern portion of Greater Third Ward can also travel across US 59/I-69 via Wheeler Avenue,
6 merge onto Richmond Avenue, and turn left to merge onto the US 59/I-69 southbound
7 mainlanes. Drivers from the neighborhood can access the US 59/I-69 northbound mainlanes
8 by using the entrance ramp at McGowen Street. Drivers from the neighborhood can access
9 the SH 288 southbound mainlanes by traveling across US 59/I-69 and SH 288 via McGowen
10 Street, turning left at Hamilton Street, and using the Hamilton Street entrance ramp to merge
11 onto SH 288 southbound. Drivers from Greater Third Ward can use major cross streets such
12 as Elgin Street and McGowen Street to access Midtown, and can use cross streets such as
13 Emancipation Avenue and Scott Street to access East Downtown.

14 Under the Preferred Alternative, I-45 would be rerouted and the Pierce Elevated would be
15 removed. Both southbound and northbound US 59/I-69 frontage roads would be constructed
16 near SH 288, allowing for more connectivity between Greater Third Ward and adjacent
17 neighborhoods such as Downtown and Midtown. Additionally, the US 59/I-69 southbound exit
18 ramp to McGowen Street and Tuam Street would be removed and a US 59/I-69 southbound
19 exit ramp to Bell Street and Leeland Street would be constructed. This would require drivers
20 from Greater Third Ward to travel across the I-45 and US 59/I-69 intersection to travel to and
21 from the neighborhood. Additionally, the US 59/I-69 southbound exit ramp to Fannin Street
22 would be removed and an exit ramp to Alameda Road would be constructed. This new exit
23 ramp at Alameda Road could reduce travel times for drivers in the southern portion of Greater
24 Third Ward. In addition, the existing SH 288 northbound exit ramp to Chenevert Street would
25 be removed and traffic would continue to be able to use the Elgin Street exit. The removal of
26 the SH 288 northbound Chenevert Street exit would not affect drivers accessing Greater Third
27 Ward.

28 Overall, the proposed improvements under the Preferred Alternative could affect travel
29 patterns for Greater Third Ward drivers. The rerouting of I-45 and the removal of the Pierce
30 Elevated could increase the travel distance required to access the neighborhood from
31 southbound I-45. Additionally, the replacement of the US 59/I-69 southbound exit ramp at
32 McGowen Street to Bell Street and Leeland Street would require Greater Third Ward drivers
33 to travel through additional signalized intersections to reach the neighborhood. Drivers could
34 either travel along Hamilton Street or travel across Leeland Street and turn left at
35 Emancipation Avenue, passing under I-45. The relocation of the exit ramp from Fannin Street
36 to Alameda Road as well as the construction of the continued US 59/I-69 southbound frontage
37 road would allow for easier access to and from the southern portion of the neighborhood.
38 Drivers from Greater Third Ward would continue to be able to access adjacent neighborhoods
39 using major cross streets.

The community facilities within this portion of Greater Third Ward—including the University of Houston and Texas Southern University—would not experience substantial changes to access and travel patterns as a result of the proposed improvements. Community facilities near McGowen Street—including places of worship catering to African American populations and Emancipation Park along Emancipation Avenue—could experience an increase in travel distance due to the removal of the existing exit ramp at McGowen Street. The relocation of the exit ramp from Fannin Street to Almeda Road would allow for easier access to community facilities in the southern portion of the neighborhood such as Peggy Park on Almeda Road and Young Women’s College Preparatory Academy on Cleburne Street.

Under the Preferred Alternative, continuous sidewalks would be constructed along the US 59/I-69 southbound frontage road from the US 59/I-69 and I-45 interchange to Holman Street, and along the US 59/I-69 northbound frontage road from Cleburne Street to Hadley Street. Additionally, the width of the Gray Street, McGowen Street, Tuam Street, Elgin Street, and Alabama Street cross streets would accommodate bicyclists.

5.5.4 Impacts to Transit Facilities

5.5.4.1 Segment 1: I-45 from Beltway 8 to I-610

The Preferred Alternative would not affect access to transit centers, Park & Ride facilities, or LRT services in Segment 1. Based on METRO’s New Bus Network, 37 bus routes cross or are parallel to I-45 within one mile of the Segment 1 corridor (METRO 2017). The Preferred Alternative would not permanently affect existing public bus service routes; however, bus stops along I-45 that are in the proposed right-of-way would be displaced, either permanently or temporarily during project construction. METRO Bus routes and bus stops, including displaced bus stops, are shown in the exhibits in Appendix F.

The estimated number of potentially displaced bus stops in each super neighborhood includes:

Greater Greenspoint

- 8 bus stops on the east side of I-45
- 8 bus stops on the west side of I-45

Hidden Valley

- 1 bus stop on the west side of I-45

Acres Home

- 1 bus stop on the west side of I-45

Northside/Northline

- 6 bus stops on the west side of I-45

Independence Heights

- 2 bus stops on the west side of I-45

1 Other

- 2 ▪ 1 bus stop on the west side of I-45

3 TxDOT met with METRO to discuss potential impacts of the proposed project on bus
4 operations. METRO would need advanced notice of the construction schedule to effectively
5 assess alternatives and minimize impact to bus services and facilities. METRO would need
6 approximately two to three weeks advance notice from TxDOT to close a bus stop and install
7 a temporary bus stop, and they would more than three weeks advance notice from TxDOT to
8 alter a bus route. TxDOT will coordinate with METRO to facilitate timely planning for bus stop
9 relocations and bus route detours., TxDOT will continue to communicate with METRO about
10 the project design throughout the design phase, and additional follow-up meetings would be
11 conducted as requested by METRO.

12 Temporary impacts would include lane closures during construction that would displace bus
13 stops and impact bus routes. METRO would install temporary bus stops outside of the
14 proposed right-of-way and as close as possible to the original bus stop location. If relocating
15 a temporary bus stop in proximity to the original location would not be feasible, riders would
16 need to find an alternate bus route.

17 Several commercial businesses, residential areas, and community facilities are located on the
18 east and west side of I-45. Relocation of bus stops and changes bus routes could affect
19 populations that do not have access to automobiles or that are dependent on public
20 transportation. Changes in bus routes and relocation of bus stops could alter travel patterns,
21 increase travel time, and increase walking distances to businesses, residential areas, and
22 community facilities and to bus stops. Permanent impacts to bus routes and bus stops cannot
23 be determined until preparation of final design plans. TxDOT will coordinate with METRO
24 during design to facilitate timely planning for bus route detours and bus stop relocations and
25 to ensure impacts to operations are minimized.

26 METRO would notify riders at least one week in advance of temporary bus stop relocations or
27 closures and bus routes changes. Detours and relocations would be provided to Google for
28 inclusion on Google Map. Additional public notification would include:

- 29 ▪ A list of detours and changes to bus stops posted on METRO's website
30 ▪ Notices at bus stops with new bus stop location and bus route map
31 ▪ Information on social media (Twitter, Facebook); notifications on social media are
32 typically posted one month in advance
33 ▪ Mail out to riders registered to receive notifications

34 After the proposed project construction is completed, METRO would reestablish each
35 permanent bus stop as close as possible to original location, if the bus stop is deemed needed
36 by METRO. Reestablished and new bus stop locations would be designed in accordance with
37 the Americans with Disabilities Act requirements including access ramps and surrounding
38 sidewalk conditions.

I-45 from Beltway 8 to Downtown Houston currently has one reversible HOV lane, which limits the timeframe and direction for bus service operations from north Houston to Downtown. The Preferred Alternative includes four MaX lanes (two lanes in each direction) that would provide the opportunity to expand bus service in the corridor. A two-way METRO T-ramp would be added north of the Shepherd Drive and Veteran's Memorial Drive intersection that would connect directly to the Shepherd Park & Ride facility. The METRO HOV T-ramp between Crosstimbers Street and the HB&T railroad tracks would be removed. Proposed improvements would replace the T-ramp with northbound and southbound MaX lane direct connectors to I-610.

5.5.4.2 Segment 2: I-45 from I-610 to I-10

Based on METRO's New Bus Network, 37 bus routes cross or parallel I-45 within one mile of the Segment 2 corridor (METRO 2017). Segment 2 includes the Greater Heights and Near Northside (Northside Village) super neighborhoods. The Preferred Alternative would not permanently affect existing public bus service routes. Temporary impacts include lane closures during construction that could impact bus routes. Changes in bus routes could alter travel patterns, increase travel time, and increase walking distances to community facilities. METRO Bus routes and bus stops, including displaced bus stops, are shown in the exhibits in Appendix F.

One bus stop at the intersection of Quitman Street and the proposed northbound I-45 entrance ramp (within the Greater Heights super neighborhood) is within the exiting right-of-way and could be impacted or displaced. METRO would install a temporary bus stop outside of the proposed right-of-way and as close as possible to the original bus stop location. Relocation could increase walking distances to bus stop. If relocating a temporary bus stop in proximity to the original location would not be feasible, riders would need to find an alternate bus route. METRO would provide public notification in advance of temporary bus stop relocations or closures and bus routes changes. TxDOT will coordinate with METRO to facilitate timely planning for bus stop relocations and bus route detours.

Permanent impacts to bus routes and bus stops cannot be determined until preparation of final design plans. TxDOT will coordinate with METRO during design to facilitate timely planning for bus stop relocations and bus route detours and to ensure impacts to operations are minimized.

No Park & Ride or transit facilities are located in the Segment 2 study area. The Preferred Alternative would not directly affect public transit services.

5.5.4.3 Downtown Loop System

Based on METRO's New Bus Network, 60 bus routes and three LRT lines (Main Street, East End, and Southeast) cross or parallel portions of the Downtown loop system in the Segment 3 project area. The Preferred Alternative would not permanently affect existing public bus service routes. Bus stops within the proposed right-of-way of the Preferred Alternative would be displaced, either permanently or temporarily during project construction. In Downtown, the

bus stops on Pierce Street are in the existing right-of-way of the Pierce Elevated and would not be displaced by the proposed project. METRO bus routes and bus stops, including displaced bus stops, are shown in the exhibits in Appendix F.

The estimated number of potentially displaced bus stops in each super neighborhood includes:

Washington Avenue Coalition/Memorial Park

- None

Downtown

- 2 bus stops on the north side of I-10
- 3 bus stops on the south side of I-10
- 2 bus stops on the east side of US 59/I-69
- 12 bus stops on Pierce Street (existing right-of-way)

Greater Fifth Ward

- 3 bus stop north of the I-10 and US 59/I-69 interchange
- 6 bus stop south of the I-10 and US 59/I-69 interchange

Second Ward

- 2 bus stops on the east side of US 59/I-69

Greater Third Ward

- None

Midtown

- 1 bus stop at Pierce Street and Louisiana Street
- 1 bus stop at Pierce and Smith Street

Fourth Ward

- None

Neartown/Montrose

- None

Museum Park

- 1 bus stop south of the US 59/I-69

University Place

- None

Temporary impacts would include lane closures during construction that would displace bus stops and impact bus routes. METRO would install temporary bus stops outside of the proposed right-of-way and as close as possible to the original bus stop location. If relocating a temporary bus stop in proximity to the original location would not be feasible, riders would need to find an alternate bus route. Changes in bus routes and relocation of bus stops could

1 alter travel patterns, increase travel time, and increase walking distances to businesses,
2 residential areas, and community facilities and to bus stops. Permanent impacts to bus routes
3 and bus stops cannot be determined until preparation of final design plans. TxDOT will
4 coordinate with METRO during design to facilitate timely planning for bus stop relocations and
5 bus route detours and to ensure impacts to operations are minimized.

6 METRO would provide public notification in advance of temporary bus stop relocations or
7 closures and bus routes changes. TxDOT will coordinate with METRO to facilitate timely
8 planning for bus stop relocations and bus route detours.

9 A portion of the Wheeler Transit Center property is located within the proposed right-of-way of
10 the Preferred Alternative. Rail services at the transit center would not be impacted as
11 US 59/I-69 would be depressed in that area and the rail lines would be located above the
12 freeway at ground level. However, right-of-way requirements would eliminate the existing bus
13 lane exit from the transit center to Fannin Street and would truncate access to Blodgett Street.
14 Reduced access to local streets affects the optimal use of the property and could limit future
15 high capacity transit opportunities (METRO 2017). TxDOT, METRO, and the City of Houston
16 are jointly evaluating other local street connection options to the Wheeler Transit Center
17 outside of the TxDOT proposed right-of-way. During construction, the proposed improvements
18 may affect access for the Green and Purple LRT lines traveling eastbound along Texas Avenue
19 and the Red LRT line traveling northbound along North Main Street (METRO 2017). The
20 elimination of the Pierce Street and St. Joseph Parkway connection to I-45 could impact
21 access to the Downtown Transit Center and potentially increase operations costs (METRO
22 2017). TxDOT is coordinating with METRO regarding the access into south Downtown and the
23 Downtown Transit Center. TxDOT will continue to coordinate with METRO during design and
24 construction to minimize impacts to existing transit operations.

25 **5.5.5 Railroads**

26 During construction, the proposed project may require re-routing or redirecting of existing rail
27 lines and infrastructure. Relocation or rerouting of existing rail lines could temporarily disrupt
28 operations and result in delays for rail traffic that is rerouted as well as rail traffic on rail lines
29 to which traffic is rerouted.

30 I-45 currently bridges over the HB&T railroad tracks on the north side of I-610. The Preferred
31 Alternative would require new right-of-way for the additional lanes over the railroad.
32 Construction would not impede railroad operations. The existing railroad tracks that parallel
33 Winter Street and bridge over I-10/I-45 and White Oak Bayou would be temporarily impacted
34 during project construction. To minimize impacts to rail operations, TxDOT will construct a
35 shoofly (a temporary track) that offsets the existing bridge (commonly known as the “Be
36 Someone Bridge”) and serves as a detour route for rail traffic during construction. The shoofly
37 would be constructed within the existing railroad right-of-way. TxDOT will schedule tie in
38 connections to rail mainlines with sufficient advance notice to allow railroad companies to

plan for alternative routes. If alternate routes are not planned, rerouting connections could cease rail operations for approximately two days.

TxDOT has previously coordinated with HB&T, BNSF, and UPRR representatives, and TxDOT does not anticipate permanently affecting current operations and rail locations.

5.6 Noise

5.6.1 What is the noise issue and why it is important in the context of the NHHIP?

The purpose of a noise study is to determine whether highway traffic sounds will have an impact on nearby areas frequently used by people along the roadway corridor. Noise from construction activities is also addressed. This Section contains a brief overview of how noise impacts are evaluated, to provide context for the discussion of the predicted noise impacts to communities and the proposed mitigation measures. Details of the noise analysis performed for the proposed project are in the NHHIP Traffic Noise Technical Report.

5.6.2 How would the project affect noise levels?

Noise could be affected in several ways due to the construction of the NHHIP. The following provides a summary of causes of potential effects:

- Traffic volumes are projected to increase significantly over the next 20 years. In turn, this increase in traffic would cause increased traffic noise levels. Highway traffic noise is primarily generated from a vehicle's tires, engine, and exhaust system.
- In some areas of the proposed project, the highway would be closer to existing land uses than it is now. These include residential and commercial areas, as well as community and recreational facilities. Generally, the traffic noise levels would increase the closer the road is to a receiver, if not mitigated.
- In some areas the position and elevation of travel lanes would change. Changing the line-of-sight between adjacent land uses and the roadway is a factor in traffic noise levels. Heavy machinery is the major source of noise during construction and is constantly moving in unpredictable patterns. During construction, noise levels would increase due to the use of heavy machinery and other construction vehicles and equipment.

5.6.3 Where will these noise effects be felt and who will be affected?

People that would be affected by noise effects are either adjacent to or nearby the project area of the proposed project, which includes portions of I-45, I-610, I-10, SH 288 and US 59/I-69. People who could be affected by noise include those that live adjacent to or nearby the project corridor, work in the general area, traverse the area for outside destinations, shop at commercial establishments, and utilize the recreational and park/trail areas and community facilities. Community facilities include churches, cemeteries, schools, and other local facilities.

The proposed project is located in the vicinity of and within geographical areas known as super neighborhoods. The super neighborhoods are shown in Figure 5-1 in this technical report and are discussed in detail in Section 5.2.

5.6.4 Summary of Noise Impacts and Proposed Mitigation

Existing and predicted noise levels were analyzed for locations called receivers that represent land use areas adjacent to the proposed project that may be impacted by traffic noise and could potentially benefit from noise abatement. The NHHIP Traffic Noise Technical Report evaluated the potential noise impacts of the Preferred Alternative. The noise technical report is an appendix to the Final EIS. Noise levels were predicted to remain the same, increase, or decrease compared to existing conditions at representative receivers where noise levels were analyzed. The noise receivers included many types of land uses, such as residential, commercial, churches, medical facilities, hotels, parks, and institutional. The analysis included an evaluation of potential mitigation measures.

The sections below generally describe the existing and predicted traffic noise levels, traffic noise impacts, and proposed noise abatement measures (noise barriers) in each super neighborhood area. A traffic noise impact occurs when the existing or predicted noise levels for the project approach or exceed FHWA NAC or when predicted future traffic noise levels substantially exceed the existing noise level even though the predicted noise levels may not exceed the NAC. Additional information about noise barriers is in Section 5.6.5.

The following sections discuss super neighborhoods and their noise impacts by segments.

Segment One Super Neighborhoods

Greater Greenspoint

Eight receivers were analyzed in the Greater Greenspoint super neighborhood near the proposed project. These receivers represented four land use types which included restaurants, a school's football stadium (Aldine High School), and interiors of churches (Berean Baptist Church and Iglesia Cristiana La Senda Antigua) and a school (Aldine Ninth Grade School).

Existing noise levels ranged from 46 dB(A) to 75 dB(A) and predicted noise levels ranged from 47 dB(A) to 74 dB(A).

- Two receivers: noise levels would decrease between 2 dB(A) to 3 dB(A)
- One receiver: no change in noise level
- Five receivers: noise levels would increase between 1 dB(A) to 6 dB(A)

The Aldine Ninth Grade School and nearby football stadium are located on the east side of I-45. The proposed project would shift the roadway mainlanes and northbound frontage road farther from the school and football stadium. The traffic noise analysis predicts a noise impact at the Aldine High School football stadium near I-45. A noise barrier was analyzed and is not proposed at this location, because it did not meet the noise reduction criterion or

cost-effectiveness criterion established by the FHWA Noise Standard (23 CFR Part 772) and TxDOT's FHWA-approved noise guidelines.

Iglesia Cristiana La Senda Antigua is a place of worship on the east side of I-45 between Blue Bell Road and West Mount Houston Road. While the noise level is predicted to decrease near this facility, there would be a noise impact. A noise barrier was analyzed and is not proposed, because it did not meet the noise reduction criterion or cost-effectiveness criterion established by the FHWA Noise Standard (23 CFR Part 772) and TxDOT's FHWA-approved noise guidelines.

Hidden Valley

No receivers were analyzed in the Hidden Valley super neighborhood. The distance between the proposed right-of-way and existing homes is approximately 300 feet.

Acres Home

No receivers were analyzed in the Acres Home super neighborhood. The proposed right-of-way parallels the Acres Home neighborhood boundary for approximately 500 feet. In this general area there are commercial facilities that are approximately 300 feet west of the proposed project right-of-way.

Northside/Northline

Thirty-four receivers were analyzed in the Northside/Northline super neighborhood. These receivers represented four land use types which included single-family residences, apartments, restaurants, and a funeral home interior (Del Angel Funerarias).

Existing noise levels ranged from 55 dB(A) to 77 dB(A) and predicted noise levels ranged from 55 dB(A) to 77 dB(A).

- Eleven receivers: noise levels would decrease between 1 dB(A) to 5 dB(A)
- Four receivers: no changes in noise levels
- Nineteen receivers: noise levels would increase between 2 dB(A) to 8 dB(A)

Traffic noise levels are predicted to increase in residential areas in the Northside/Northline neighborhood on both the east and west sides of I-45. While noise levels are predicted to decrease near residential areas in the Northside/Northline on the east side of I-45 between West Little York Road and Tidwell Road, noise impacts are predicted. Noise barriers are proposed in most of these locations to reduce noise levels (see Appendix C, Exhibit C-3). Thirty-five residences would benefit from noise barriers in the Northside/Northline neighborhood.

Pecan Grove Manor and Woodland Christian Towers are senior care living facilities located on the east side of I-45 near the Tidwell Road intersection, and serve low-income elderly persons and persons with disabilities. Traffic noise levels are not predicted to increase near these facilities, and there would not be noise impacts. The Del Angel Funerarias is a funeral home on the east side of I-45 between Tidwell Road and Crosstimbers Road. While the noise level

is predicted to decrease near this facility, there would be a traffic noise impact. A noise barrier was analyzed and is not proposed because it did not meet the noise reduction criterion or cost-effectiveness criterion established by the FHWA Noise Standard (23 CFR part 772) and TxDOT's FHWA-approved noise guidelines.

Independence Heights

Nineteen receivers were analyzed in the Independence Heights super neighborhood. These receivers represented three land use types which included single-family residences, apartments, and a hotel pool (Texas Inn and Suites).

Existing noise levels ranged from 62 dB(A) to 72 dB(A) and predicted noise levels ranged from 65 dB(A) to 76 dB(A).

- Three receivers: noise levels would decrease between 1dB(A) to 3 dB(A)
- Sixteen receivers: noise levels would increase between 1 dB(A) to 7 dB(A)

Traffic noise levels are predicted to increase near some residential areas in Independence Heights along I-45 and I-610. Noise barriers are proposed in some locations to reduce noise levels (see Appendix C, Exhibit C-3). Eighteen residential properties would be benefited by the proposed noise barriers.

Segment Two Super Neighborhoods

Near Northside

Twenty-nine receivers were analyzed in the Near Northside super neighborhood. These receivers represented six land use types which included single-family residential, apartments, a community center (Leonel Castillo), park (Hogg Park), medical facility (Thomas Street Health Center), and a cemetery (Historic Hollywood Cemetery).

Existing noise levels ranged from 55 dB(A) to 76 dB(A) and predicted noise levels ranged from 60 dB(A) to 76 dB(A).

- Fourteen receivers: noise levels would decrease between 1 dB(A) to 11 dB(A)
- Four receivers: no changes in noise levels
- Eleven receivers: noise levels would increase between 1 dB(A) to 8 dB(A)

Traffic noise levels are predicted to increase near some residential areas in Near Northside along I-45 and I-610. Noise barriers are proposed in some locations to reduce noise levels (see Appendix C, Exhibit C-3). The proposed noise barriers would benefit 65 residential properties. Traffic noise levels are not predicted to increase near the Historic Hollywood and Holy Cross Catholic cemeteries and traffic noise levels would decrease near the Leonel Castillo Community Center and Hogg Park; noise impacts are not predicted at any of these facilities.

Greater Heights

Thirty-eight receivers were analyzed in the Greater Heights super neighborhood. These receivers represented nine land use types which included single-family residences,

apartments, a music hall interior (Houston Professional Musicians Association), hotel pool (Astro Inn), church interior (El Monte Calvario), a park (Woodland Park), ball field (Woodland Park Ball Field) and park trail (Woodland Park Trail), and a cemetery (Adath Emeth Cemetery).

Existing noise levels ranged from 43 dB(A) to 76 dB(A) and predicted noise levels ranged from 47 dB(A) to 76 dB(A).

- Eighteen receivers: noise levels would decrease between 1 dB(A) to 6 dB(A)
- Four receivers: no changes in noise levels
- Sixteen receivers: noise levels would increase between 1 dB(A) to 4 dB(A)

Traffic noise levels are predicted to increase near some residential areas in Greater Heights. Noise barriers are proposed in some locations to reduce noise levels (see Appendix C, Exhibit C-3). Proposed noise barriers would benefit 36 residential properties, one park (Woodland Park), one music hall (Houston Professional Musicians Association), and a hotel pool (Astro Inn).

The traffic noise analysis predicts a traffic noise impact near the Woodland Park ball field and trail. A noise barrier is proposed to reduce noise levels at the park. This increase in noise level will ultimately not adversely impact the use and enjoyment of Woodland Park. Traffic noise levels are predicted to increase near the Adath Emeth Cemetery located southwest of the I-45/I-610 interchange. A noise barrier is not proposed in this location.

Traffic noise is predicted to increase at the White Oak Park and along a portion of the White Oak Bayou Greenway trail near the Freed Art and Nature Park. A noise barrier was analyzed but is not proposed at this location. The increase between existing and predicted noise is 2 dB(A) at this location.

Segment Three Super Neighborhoods

Washington Avenue Coalition/Memorial Park

Twelve receivers were analyzed in the Washington Avenue Coalition/Memorial Park super neighborhood. These receivers represent four land use types which included single-family residential, apartments, a park (American Statesmanship Park), and church interiors (Forgotten Sinners and Ecclesia Houston).

Existing noise levels ranged from 49 dB(A) to 77 dB(A) and predicted noise levels ranged from 43 dB(A) to 79 dB(A).

- Six receivers: noise levels would decrease between 2 dB(A) to 6 dB(A)
- Six receivers: noise levels would increase between 1 dB(A) to 2 dB(A)

Traffic noise levels are predicted to increase near some residential areas in the northern portion of Washington Avenue Coalition/Memorial Park on the south side of I-10 and west side of I-45. Noise barriers are proposed in some locations along I-10 to reduce noise levels. Proposed noise barriers would benefit eight residences and one place of worship (Forgotten Sinners). Noise levels are predicted to increase at American Statesmanship Park. To allow for

a view of the American Statesmanship Park, no noise barrier is proposed adjacent to the property. The increased noise level will ultimately not adversely impact the use and enjoyment of American Statesmanship Park. Appendix C, Exhibit C-3 shows the locations of proposed noise barriers.

Downtown

Fourteen receivers were analyzed in the Downtown super neighborhood. These represented eight land use types which included single-family residential, townhomes, apartments, an aquarium (Downtown Aquarium), park (Sam Houston Park), a performing art center interior (Hobby Center), City Hall Annex, and a university interior (University of Houston).

Existing noise levels ranged from 37 dB(A) to 75 dB(A) and predicted noise levels ranged from 36 dB(A) to 75 dB(A).

- Eight receivers: noise levels would decrease between 2 dB(A) to 13 dB(A)
- One receiver: no change in noise level
- Five receivers: noise levels would increase between 2 dB(A) to 10 dB(A)

Traffic noise levels are predicted to decrease near residential areas on the west side of Downtown. Traffic noise levels are predicted to increase near some residential areas in central and east Downtown near the I-45 and US 59/I-69 interchange. One noise barrier is proposed at this location and would benefit five residential properties.

The realignment of I-45 to parallel a realigned I-10 north of Downtown would cross over a portion of the University of Houston Downtown on the north side of Buffalo Bayou. Traffic noise levels are predicted to increase near the University of Houston Downtown business school on the north side of I-10, but there would not be a noise impact.

Greater Fifth Ward

Thirty-three receivers were analyzed in the Greater Fifth Ward super neighborhood. These receivers represented twelve land use types which included single-family residences, townhomes, apartments, a school (Secondary D.A.E.P), a school interior (Bruce Elementary School), a church (Olivet Baptist Church) and church interior (Bethlehem Baptist Church), funeral home interior (Clay & Clay Funeral Home), park (Hennessy Park and the private park at Kelly Village), outdoor restaurant (St. Arnold Beer Garden), senior center (Peavy Neighborhood Center), and library (Fifth Ward Neighborhood Library).

Existing noise levels for the ranged from 46 dB(A) to 76 dB(A) and predicted noise levels ranged from 44 dB(A) to 77 dB(A).

- Fourteen receivers: noise levels would decrease between 1 dB(A) to 9 dB(A)
- Four receivers: no changes in noise levels
- Fifteen receivers: noise levels would increase between 1 dB(A) to 8 dB(A)

Traffic noise is predicted to increase near residential areas in the Greater Fifth Ward on the north and south side of I-10. Appendix C, Exhibit C-3 shows the locations of proposed noise

barriers. Proposed noise barriers would benefit 33 residences, Hennessey Park, a private park at Kelly Village, 21 residential units at Kelly Village, St. Arnold Beer Garden, and the Fifth Ward Neighborhood Library. The increased noise level will ultimately not adversely impact the use and enjoyment of the parks in this neighborhood.

Second Ward

Three receivers were analyzed in the Second Ward super neighborhood. These receivers represented two land use types which included apartments and a park (Buffalo Bayou Hike and Bike Trail).

Existing noise levels ranged from 35 dB(A) to 58 dB(A) and predicted noise levels ranged from 41 dB(A) to 62 dB(A).

- One receiver: noise level would decrease by 4 dB(A)
- Two receivers: noise levels would increase between 4 dB(A) to 6 dB(A)

Traffic noise is not predicted to increase near residential areas in the Second Ward and no noise impacts are predicted. No noise barriers are proposed in the Second Ward super neighborhood.

Greater Third Ward

Thirty-two receivers were analyzed in the Third Ward super neighborhood. These receivers represented five land use types which included single-family residential, townhomes, housing development (Law Harrington Senior Living), a church (Riverside Church of Christ), and church interiors (Berean Seventh Day Adventist and House of Prayer Houston).

Existing noise levels ranged from 46 dB(A) to 78 dB(A) and predicted noise levels ranged from 49 dB(A) to 80 dB(A).

- Five receivers: noise levels would decrease between 1 dB(A) to 2 dB(A)
- Four receivers: no changes in noise levels
- Twenty-three receivers: noise levels would increase between 1 dB(A) to 7 dB(A)

Noise barriers are proposed to reduce noise levels (see Appendix C, Exhibit C-3). Those benefitting from noise barriers include 130 residential properties, including Law Harrington Senior Center, two places of worship (Berean Seventh Day Adventist and House of Prayer Houston), and one commercial property.

Midtown

Seventeen receivers were analyzed in the Midtown super neighborhood. These receivers represented seven land use types including single-family residential, townhomes, apartments, a school (Houston Academy for International Studies), a playground (SPARK Park), a community center (S.H.A.P.E. Community Center), and a church interior (Midtown Family Worship Center).

Existing noise levels ranged from 49 dB(A) to 77 dB(A) and predicted noise levels ranged from 48 dB(A) to 79 dB(A).

- Four receivers: noise levels would decrease between 1 dB(A) to 5 dB(A)
- Five receivers: no changes in noise levels
- Eight receivers: noise levels would increase between 1 dB(A) to 5 dB(A)

Traffic noise levels are predicted to increase in residential areas on the west side of US 59/I-69 in Midtown. Noise barriers are proposed in some locations to reduce noise levels (see Appendix C, Exhibit C-3). Noise barriers would benefit 24 residences, one school (Houston Academy for International Studies), one park with a playground (SPARK Park), and one community center (S.H.A.P.E. Community Center). The increased noise level will ultimately not adversely impact the use and enjoyment of the parks in this neighborhood.

Neartown/Montrose

Six receivers were analyzed in the Neartown/Montrose super neighborhood. These receivers represented two land uses which included single-family residential and townhomes.

Existing noise levels ranged from 61 dB(A) to 69 dB(A) and predicted noise levels ranged from 62 dB(A) to 68 dB(A).

- Four receivers: noise levels would decrease between 2 dB(A) to 3 dB(A)
- One receiver: no change in noise level
- One receiver: noise level would increase by 3 dB(A)

Traffic noise is not predicted to increase near residential areas in Neartown/Montrose on the north side of US 59/I-69 and no noise impacts are predicted. No noise barriers are proposed in the Neartown/Montrose super neighborhood.

Fourth Ward

Twelve receivers were analyzed in the Fourth Ward super neighborhood. These receivers represented five land use types and included townhomes, apartments, restaurants, parks (Eleanor Tinsley Park, Sam Houston Park, and Bagby Park), and a hotel pool (The Whitehall Houston).

Existing noise levels ranged from 63 dB(A) to 76 dB(A) and predicted noise levels ranged from 51 dB(A) to 70 dB(A). All receivers are predicted to experience decreased noise levels between 3 dB(A) to 19 dB(A).

While traffic noise levels near apartment buildings and townhomes on the west side of the proposed Downtown connectors between West Dallas Street and Ruthven Street are predicted to decrease, noise impacts are predicted. One noise barrier is proposed west of I-45 to reduce noise levels and would benefit eight residential properties. The increased noise level will ultimately not adversely impact the use and enjoyment of the parks in this neighborhood.

Museum Park

Six receivers were analyzed in the Museum Park super neighborhood. These receivers represented two land use types which included single-family residential, and a school (Montessori School of Downtown).

Existing noise levels for the six receivers ranged from 69 dB(A) to 75 dB(A) and predicted noise levels ranged from 69 dB(A) to 77 dB(A).

- Three receivers: noise levels would decrease between 2dB(A) to 4 dB(A)
- One receiver: no change in noise level
- Two receivers: noise levels would increase between 2dB(A) to 6 dB(A)

Traffic noise is predicted to decrease near most residential areas in Museum Park on the south side of US 59/I-69. However, there are some locations with projected increases in noise on the south side of US 59/I-69, and a noise barrier is proposed. Appendix C, Exhibit C-3 shows the locations of proposed noise barriers. The noise barriers would benefit seven residences and one school (Montessori School of Downtown) in Museum Park.

University Place

Four receivers were analyzed in the University Place super neighborhood. These receivers represented three types of land uses which included townhomes, apartments, and a school (Post Oak High School).

Existing noise levels ranged from 52 dB(A) to 78 dB(A) and predicted noise levels ranged from 50 dB(A) to 81 dB(A).

- One receiver: noise level would decrease by 2 dB(A)
- Three receivers: noise levels would increase between 3 dB(A) to 5 dB(A)

Traffic noise is predicted to decrease near some residential areas in University Place on the south side of US 59/I-69. However, noise would increase at some residential areas and a school activity area. These locations behind an existing retaining wall for US 59/I-69 and the construction of a noise barrier would jeopardize the structural integrity of the existing retaining wall. Therefore, noise mitigation is not proposed.

5.6.5 What measures will be taken to mitigate noise impacts?

The following sections discuss provide a summary of proposed noise mitigation measures for this project.

Noise Barriers:

The most common noise abatement or mitigation measures for noise impacts are noise barriers. Noise barriers are typically solid walls constructed of concrete. For this project, proposed noise barriers would be 14 feet tall in Segment 1 and 16 feet tall in Segments 2 and 3.

Noise barriers are designed to reduce noise levels, but may not eliminate noise impacts or remove all traffic noise. Additionally, while most noise barriers are supported in a neighborhood, sometimes the adjacent community does not wish to have them. Negative perceptions of noise barriers can be feelings of confinement, restricted and/or limited views,

1 diminishment of air circulation, loss of sunlight and night lighting, and reduced access to
2 nearby streets.

3 The construction and implementation of noise barriers must adhere to the following
4 conditions:

- 5 ▪ Blending in with the surrounding environment;
- 6 ▪ Locating properly between the highway and impacted activity areas;
- 7 ▪ Providing noise reduction for the number and category of impacted activity areas;
- 8 ▪ Providing access to activity areas from the highway for routine and emergency traffic;
- 9 ▪ Providing adequate visibility around noise barriers to ensure motorist and pedestrian
10 safety;
- 11 ▪ Ensuring ability of the noise barrier (height, length and material) to effectively reduce
12 noise levels;
- 13 ▪ Having a reasonable cost of construction and maintenance;
- 14 ▪ Avoiding utilities and easements; and,
- 15 ▪ Meeting desires of the adjacent land owners.

16 When a noise barrier is proposed in areas where there are noise impacts, the people in that
17 area are notified by mail that a noise barrier is proposed in their area. They are also informed
18 about when and where a noise workshop will be held. The opinions of those affected are vital
19 to the construction of a noise barrier. Even if the noise study indicates that a noise barrier is
20 feasible and reasonable, the final decision to build or not is by a simple majority vote of
21 adjacent property owners. In addition, the final decision to build them would not be made until
22 completion of the project design and utility evaluation.

23 Proposed noise barriers are shown in Appendix C, Exhibit C-3. Any subsequent project design
24 changes may require a re-evaluation of preliminary noise barriers proposals. The final decision
25 to build them would not be made until completion of the project design, utility evaluation, and
26 polling of adjacent property owners.

27 *Construction Noise Mitigation:*

28 Construction noise would have short-term impacts to receivers along and nearby the corridor
29 and along designated construction access routes. Impacts from construction normally occurs
30 during daylight hours when occasional loud noises are more tolerable. None of the receivers
31 are expected to be exposed to construction noise for a long duration. Any extended disruption
32 of normal activities is not expected. Best management practices (BMPs) would be
33 implemented to minimize noise during construction, as per FHWA's Highway Construction
34 Noise Handbook (2006). TxDOT's Standard Specifications for Construction and Maintenance
35 of Highways, Streets, and Bridges require construction contractors to minimize noise, avoid
36 the creation of unnecessary noise impact, and mitigate excessive noise (TxDOT 2014). In
37 addition to the standard specifications, provisions will be included in the construction plans
38 and specifications that require the contractor to make every reasonable effort to minimize

1 construction noise through abatement measures such as work hour controls and proper
2 maintenance of muffler systems.

3 *Other Noise Mitigation:*

4 Other forms of noise mitigation that TxDOT will provide include:

- 5 ▪ Utilize longitudinally-tined pavement on the mainlanes and frontage roads, which
6 decreases noise more efficiently than traditional concrete pavement.
- 7 ▪ To mitigate for potential short-term construction dust and/or noise impacts, TxDOT
8 will develop a program to provide weatherization and energy efficiency for qualifying
9 low-income single-family residences.
- 10 ▪ Coordinate with schools to avoid construction in the school vicinity during STAAR
11 testing and other sensitive times.

12 **5.7 Air Quality and Community Resources**

13 This Section provides an overview of transportation-related air quality issues and how they
14 relate to human health and community resources. The information provided relies on regional
15 and national data on transportation emissions, air quality trends, and the potential impacts
16 of air quality on human health. Quantitative air quality studies completed for the proposed
17 project are also considered. These data, along with public and agency input received during
18 the environmental process, are considered within the context of the 17 super neighborhoods
19 adjacent to the proposed project.

20 **5.7.1 Overview of Transportation Emissions**

21 Mobile sources of air emissions include both on-road vehicles, such as passenger cars and
22 trucks, commercial trucks and buses, and motorcycles, as well as non-road vehicles, including
23 aircraft, heavy equipment, trains, marine vessels, and small engines and tools
24 (e.g., lawnmowers, etc.). Transportation sources may contribute to air pollution, which in turn,
25 can negatively impact human health. The two main groups of transportation air quality
26 emissions that may result in regional or localized impacts include criteria pollutants and
27 mobile source air toxics (MSAT). Criteria pollutants are common air pollutants found worldwide
28 and include ozone, carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), lead
29 (Pb), and particulate matter (PM₁₀ and PM_{2.5}). According to the EPA (2019a), the
30 transportation sector is the largest contributor to carbon monoxide (CO) emissions.
31 Transportation sources are also responsible for over 55 percent of total nitrogen oxide (NO_x)
32 emissions in the U.S. and less than 10 percent of both particulate matter (PM) and volatile
33 organic compound (VOC) emissions. In addition, the EPA has identified nine air toxics with
34 significant contributions from mobile sources that are among the national and regional-scale
35 cancer risk drivers from their *2011 National Air Toxics Assessment* (2019b). These are
36 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (DPM),

ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter (POM). The FHWA considers these the priority MSAT.

The EPA established air quality standards under the Clean Air Act to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. These standards—referred to as the National Ambient Air Quality Standards (NAAQS)—are set for the six criteria pollutants. Harris County is part of the Houston-Galveston-Brazoria (HGB) area designated as being in nonattainment for the 8-hour ozone standard. The greater Houston area attains or is unclassifiable for all federal air standards except ozone. There are no NAAQS for MSAT; however, the EPA has established a set of rules relating to MSAT emissions and controls them through federal vehicle and fuel regulations. Additionally, the Texas Commission on Environmental Quality (TCEQ) monitors for air toxics and conducts toxicology studies of these monitoring data, the results of which are discussed in Section 5.7.3.

5.7.2 Community Issues Related to Air Quality

Air emissions and their effect on public health are considered one component of the overall picture of the potential impacts of transportation projects on surrounding communities. While quantitative air quality studies conducted for the proposed project conclude that the project does not demonstrate a substantial impact on air quality (see Section 5.7.3 below), the overall relationship between air quality and effects to communities—particularly regarding sensitive populations such as children, the elderly, and asthmatics—is discussed.

5.7.2.1 Health Effects of Air Emissions

Air pollution emitted from transportation sources contributes to smog and poor air quality, which can have negative impacts on health. According to the EPA (2015), exposure to traffic-related air pollution in general has been linked to both short- and long-term health effects, including asthma, reduced lung function, impaired lung development in children, and cardiovascular effects in adults. Sensitive populations such as children, the elderly, and asthmatics are especially susceptible to the health effects related to air pollution exposure (EPA 2017). In particular, excess ozone can be harmful to human health, especially for sensitive populations and people who are active outdoors. Similarly, various scientific studies have linked PM exposure to increased respiratory symptoms (such as airway irritation, coughing, and difficulty breathing), irregular heartbeat, aggravated asthma, and decreased lung function. Those with heart or lung disease, children, and the elderly are most at risk for experiencing the health effects of PM exposure (EPA 2018a). Additionally, while high levels of CO outdoors are uncommon, elevated levels of CO can be of particular concern for individuals with certain types of heart disease (EPA 2016a).

According to EPA's 2007 MSAT rule (40 CFR Parts 59, 80, 85, and 86), "[s]ome MSATs are known or suspected to cause cancer." However, there is incomplete and unavailable information for conducting a project-specific health-impacts analysis, such as uncertainties associated with the existing estimates of toxicity of the MSAT, difficulties identifying long-term exposure, and lack of a national consensus on an acceptable level of risk. Incomplete and

unavailable information is discussed in more detail in Section 2.0 of the NHHIP Quantitative MSAT Technical Report.

5.7.2.2 Sensitive Populations within the NHHIP Community Study Area

Sensitive populations in terms of the health effects of air quality include children, the elderly, and asthmatics, along with other persons with health conditions that increase susceptibility to the effects of air pollution. Living and working near sources of air pollution—such as a busy highway, rail yard, marine port, or industrial plant—can lead to higher exposures to air contaminants. The NHHIP travels through densely populated portions of Houston, including 17 super neighborhoods. As a result, a relatively high number of residences as well as land uses commonly associated with sensitive populations are located in proximity to the proposed project. For the purposes of this analysis, land uses considered to represent potentially sensitive populations include:

- schools and school-related properties (e.g., sports stadiums) that typically serve children under 18 years of age;
- daycares;
- parks with equipment designed for children;
- hospitals and other major medical facilities;
- nursing homes and senior centers; and
- community centers.

Land uses associated with sensitive populations within each segment are discussed below.

5.7.2.2.1 Sensitive Populations in Segment 1

Within Segment 1 (Beltway 8 to I-610), there are five schools or school-related properties within 200 feet of the proposed right-of-way. These include Aldine Ninth Grade School, Aldine High School Football Stadium, Alpha and Omega Academy (within the proposed right-of-way), Houston Community College, and Interactive Learning Systems. One school, Bussey Elementary, is located within 500 feet of the proposed right-of-way. Segment 1 also contains one daycare (Unity Childcare) as well as a long-term acute-care hospital (Kindred Healthcare) within 500 feet of the proposed right-of-way.

5.7.2.2.2 Sensitive Populations in Segment 2

Segment 2 (I-610 to I-10) contains one school, Jefferson Elementary, within 200 feet of the proposed right-of-way. Additionally, Woodland Community Center and Park and Thomas Street Community Health Center are located within 200 feet of the proposed right-of-way. Within 500 feet of the proposed right-of-way is Roosevelt Elementary as well as a portion of Moody Park; however, this portion of the park is primarily open space and does not contain equipment for children.

5.7.2.2.3 Sensitive Populations in Segment 3

Within Segment 3 (Downtown Loop), there are seven schools as well as St. Michael's Home for Children within 200 feet of the proposed right-of-way. The schools include Houston Academy for International Studies, Post Oak High School, Montessori School of Downtown, Bruce Elementary, Secondary Disciplinary Education Program, Young Women's College Preparatory Academy, and Fifth Ward Head Start Academy. There are six health facilities within 200 feet of the proposed right-of-way, including San Jose Clinic, Fifth Ward Multi-Service Center, John W. Peavy Center Senior Program, Kindred Healthcare, CHRISTUS St. Joseph Medical Center, and Healthcare for the Homeless. Parks within 200 feet of the proposed right-of-way with equipment for children include Peggy Park and Brewster Park.

Within 500 feet of the proposed right-of-way in Segment 3, there are five schools and seven parks. The schools include Young Scholars Academy for Excellence, International Day School, Joy School, Energy Institute High School, and YES Prep Fifth Ward. Parks with equipment for children include Swiney Park, Lee and Joe Jamail Skatepark, Barbara Fish Danial Nature Play Area and Picnic Pavilion along Buffalo Bayou, Baldwin Park, Gregg Street Park, Midtown Park, and Moses LeRoy Park.

5.7.3 Summary of Quantitative Air Quality Studies Conducted for the NHHIP

Quantitative studies of the contribution of the proposed project to air emissions are available in the CO Traffic Air Quality Analysis (TAQA) Technical Report (July 2019) and the MSAT Quantitative Technical Report (July 2019). The conclusions of these reports are briefly summarized below.

As stated in the CO TAQA conducted for the proposed project, modeling results indicate that local concentrations of CO are not projected to exceed national health-based standards at any time along any segment of the proposed project, and CO concentrations are anticipated to remain relatively consistent from the estimated time of completion of the project through 2040 (design year). The highest predicted (2040) CO concentrations for the 1-hour and 8-hour NAAQS for the project are 3.7 ppm and 2.6 ppm, respectively, and well below the NAAQS of 35 ppm (1-hour) and 9 ppm (8-hour). These health-based standards (i.e., the applicable CO NAAQS) "provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly" (EPA 2016b). Also, in response to public comments, Appendix D of the NHHIP CO TAQA Technical Report includes additional information regarding: national near-road monitoring (EPA); air quality monitoring data for the Houston area (EPA); data for on-road mobile source emissions over time demonstrating a downward trend in emissions, even with increasing vehicle miles traveled (VMT) (TCEQ); national air quality trends showing a downward trend in emissions with increasing population (EPA); and air quality successes showing a downward trend in ozone levels for the Houston area (TCEQ). Please refer to the NHHIP CO TAQA Technical Report for more detailed information.

1 The effect of the project on air toxics was also considered. A quantitative MSAT analysis was
2 conducted because the design year annual average daily traffic is over 140,000 vehicles per
3 day (vpd), and there is public concern over air quality. The MSAT Quantitative Technical Report
4 states that both the Build Alternative and No Build Alternative are projected to be associated
5 with lower levels of MSAT emissions in 2035 (interim year) and 2040 (design year) as
6 compared to the base year (2018). The Build Alternative would result in a minor increase in
7 MSAT emissions for both the interim and design years due to slightly higher VMT. However,
8 under both the Build Alternative and No Build Alternative, MSAT levels are likely to decrease
9 over time due to nationally mandated cleaner vehicles and fuels, as required in the EPA's
10 MSAT rules (72 FR 8427). In addition to modeling results, Appendix C of the MSAT
11 Quantitative Technical Report addresses: the TCEQ Air Pollutant Watch List for air toxics; air
12 toxics monitoring by the TCEQ in Texas and Houston, including reduced emissions over time;
13 a TCEQ toxicology review of air toxics monitoring for the Houston area; additional information
14 on the role of air toxics health risk assessments for transportation projects, including forecasts
15 by the EPA that the MSAT rule will reduce MSAT health risks to acceptable levels; and the
16 results of an EPA study, *Assessing Outdoor Air Near Schools*, that found that all monitored
17 MSAT were less than short- or long-term health risk thresholds.

18 Highway improvement projects proposed for federal funding, such as the NHHIP, must meet
19 the requirements of the Clean Air Act. The Clean Air Act contains detailed transportation
20 conformity requirements, the purpose of which is to ensure that federally funded highway
21 projects conform to the applicable state and federal air quality requirements. The NHHIP
22 project is included in the current 2045 Regional Transportation Plan (RTP) that has been
23 federally approved as conforming to the State Implementation Plan (SIP) for 8-hour ozone in
24 accordance with Clean Air Act requirements. The conformity process is the demonstration of
25 how all the projects in the plan, collectively, are consistent with the regional goal of lowering
26 ozone levels. A project-level conformity determination must also be obtained from FHWA prior
27 to the environmental decision to demonstrate that the project is consistent with the regional
28 conformity analysis, and therefore also conforming to the SIP.

29 The quantitative analyses discussed—CO TAQA, quantitative MSAT, and regional conformity—
30 demonstrate that the project is not expected to result in an air quality impact as it is not
31 anticipated to cause an exceedance of an applicable CO NAAQS, is projected to have reduced
32 MSAT in the future as compared to today, and must conform to the SIP for ozone, respectively.
33 The results of these analyses are also consistent with the historical monitored trends as well
34 as the future modeled trends for the area as discussed in the following sections.

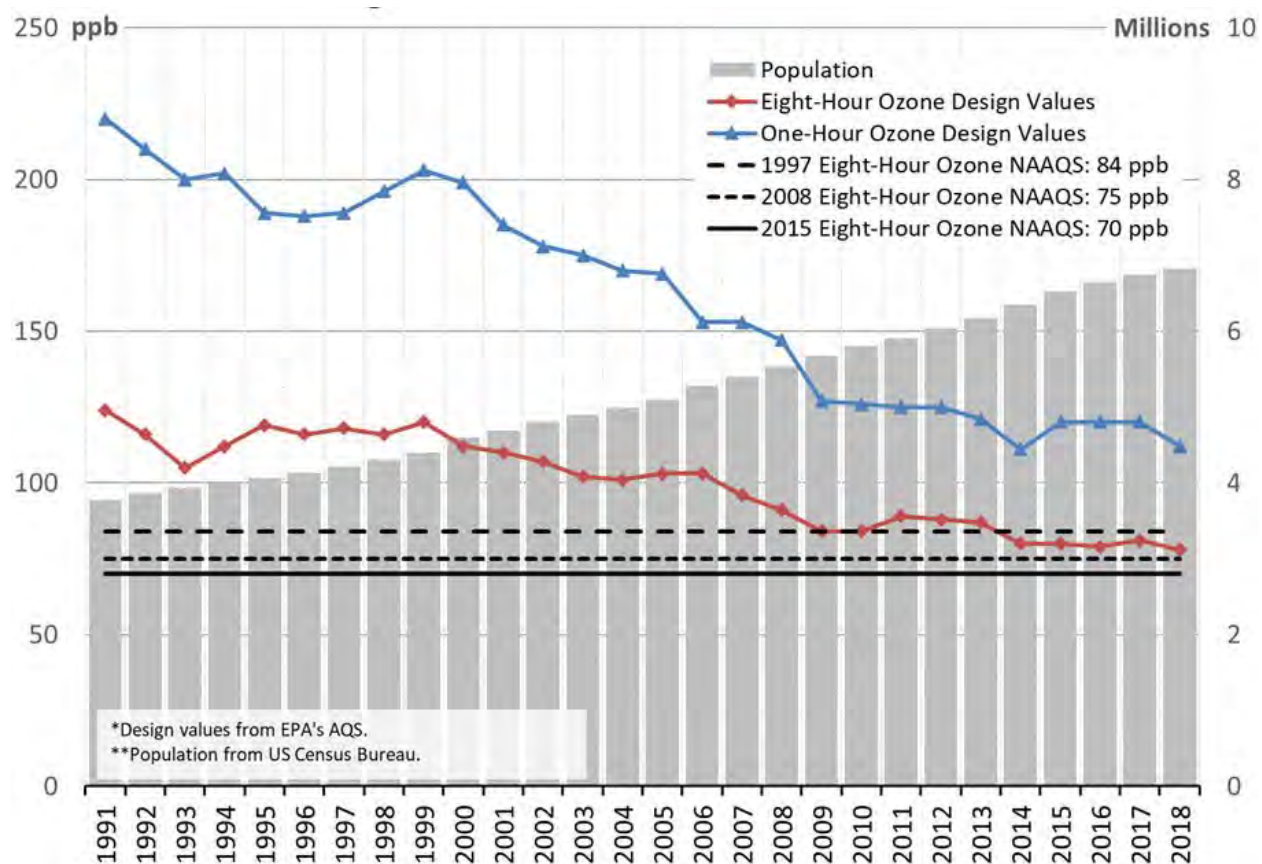
35 **5.7.4 Regional Air Quality Trends**

36 Criteria pollutants and MSAT concentrations in Houston have been declining from both point
37 sources and transportation sources, as have the number of poor air quality days associated
38 with them. As discussed below, TCEQ monitoring and modeling data indicate that
39 transportation-related emissions are projected to continue to decline in the future.

5.7.4.1 Monitoring Trends

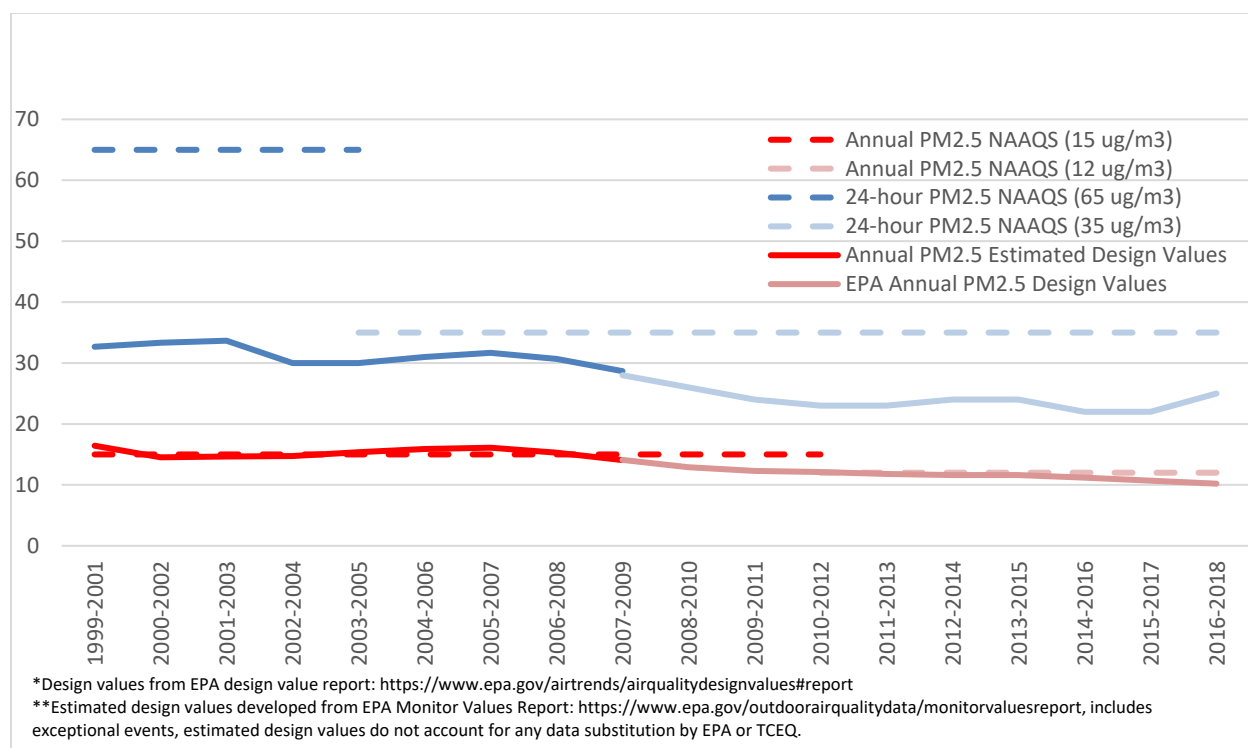
EPA rules require monitoring of criteria pollutants in Houston and throughout the United States. Part of the monitoring network includes near-road monitors placed near heavily trafficked corridors in Houston and throughout the U.S. to identify emissions representative of high-volume roadways for NO₂, CO, and PM_{2.5}. To date, near-road monitoring in Houston indicates that ambient concentrations are below the three monitored NAAQS. See Appendix D of the NHHIP CO TAQA Technical Report for more information on near-road monitor data.

Overall, air quality in the region has dramatically improved since the late 1980s despite continued population growth. Between 2000 and 2018, the Houston area increased in population by approximately 49 percent and was still able to achieve substantial air quality improvements. In fact, ozone levels improved by approximately 30 percent for 8-hour ozone and 44 percent for 1-hour ozone during the 2000–2018 timeframe (TCEQ 2019a). According to the EPA, consistent trends are evident on a nationwide scale. The EPA reports that national ozone levels declined in the 1980s, leveled off in the 1990s, and declined considerably after 2002 (EPA 2019c). Furthermore, the number of days Houston exceeded the ozone standard has dropped from 59 in 2000, to 21 in 2010, and to 14 in 2018, even with two more stringent ozone standards being issued during this time period. Similar trends of improving air quality in the Houston area for other criteria pollutants are demonstrated with air monitoring data (EPA 2018b). See Figure 5-54 and Figure 5-55 for ozone and PM_{2.5} trends in the HGB area and Appendix D of the NHHIP CO TAQA Technical Report has more information on criteria pollutant trends.



Source: TCEQ 2019a; EPA 2019d

Figure 5-54: Ozone Design Values in the Houston-Galveston-Brazoria Area



Source: TxDOT, prepared from EPA DV Report and EPA Monitor Values Report

Figure 5-55: PM_{2.5} Trends in the Houston-Galveston-Brazoria Area

MSAT also appear to be trending down in the HGB area. The EPA annual report, *Our Nation's Air 2019*, indicates that air toxics such as benzene and 1,3-butadiene continue to demonstrate a declining trend nationwide (EPA 2019e). In the HGB area specifically, the report's interactive map indicates air toxic monitors as either having no trend or declining for acetaldehyde, benzene, 1,3-butadiene, ethylbenzene, formaldehyde, and naphthalene. Additionally, based on air toxics monitoring evaluations, TCEQ maintains a list of areas in Texas with elevated levels of air toxics, called the Air Pollutant Watch List (APWL). Historically, there have been eight APWL sites in Harris or Galveston counties; however, successful programs reduced air toxics levels to the extent that there are currently no APWL sites in Harris or Galveston counties (TCEQ 2019b). According to the TCEQ, from 2000 to 2014, over 90 percent of the benzene monitors in the Houston region showed a decrease in annual average concentrations (TCEQ 2019a). Moreover, the TCEQ reports in the *Health Effects Review of 2016 Ambient Air Network Monitoring Data in Region 12, Houston*, that 2016 monitoring results from the Houston area indicate that, assuming exposure, MSAT concentrations would not be expected to cause any short-term or long-term adverse health effects (TCEQ 2017). See Appendix C of the NHHIP Quantitative MSAT Technical Report for more information on air toxics monitoring and trends in Houston.

5.7.4.2 Modeling Trends

In addition to the above referenced monitoring trends, modeling data exists to project future trends. The TCEQ performs modeling of on-road mobile source emissions, which contribute to

1 ozone. In their document entitled *On Road, Mobile Source Trend Emissions Inventories for all*
2 *254 Counties in Texas for 1999–2050*, the TCEQ provides projected trends in emissions using
3 the MOVES2014 emission model and factoring in characteristics specific to Texas (TCEQ
4 2015). See the charts for Harris County in Appendix D of the NHHIP CO TAQA Technical Report
5 for various criteria pollutants (CO, PM_{2.5}, PM₁₀, SO₂) and ozone precursors (VOC and NO_x). The
6 common trend is that even with an increase in VMT, overall tailpipe emissions are projected
7 to decline significantly in the future for each of the emissions evaluated, largely due to federal
8 rules that require more efficient engines, cleaner tailpipe emissions, and cleaner burning
9 fuels.

10 FHWA has performed modeling of nationwide MSAT trends between 2010 through 2050 in
11 their interim MSAT guidance (2016). The modeling indicates that all priority MSAT are
12 projected to decline into the future, even with an increase in VMT over the same time period.
13 This nationwide analysis is available in Section 2.0 of the NHHIP Quantitative MSAT Technical
14 Report.

15 Overall, an examination of Houston's air monitoring history and future projections
16 demonstrates that even though VMT is increasing, air quality has improved (emissions have
17 been reduced), and modeling indicates mobile source emissions are projected to be less in
18 the future than they are today.

19 *5.7.4.3 Air Quality and Emissions-related Effects of the NHHIP on Communities*

20 The NHHIP is not anticipated to cause or worsen an exceedance of any of the EPA
21 health-based NAAQS. In addition, criteria pollutant concentrations (including ozone) are
22 declining both locally and nationally. Similarly, the TCEQ trends modeling data for Harris
23 County indicate on-road mobile source-related criteria pollutants and precursor emissions are
24 projected to decline in the future as well. With regards to MSAT, a quantitative MSAT analysis
25 conducted for the proposed project indicates that overall emissions of MSAT are projected to
26 decline in the future from the base scenario, regardless of build or no-build alternative.

27 In general, transportation-related emissions can result in health effects, particularly for
28 sensitive populations. While land uses typically associated with sensitive populations
29 (including schools, parks, and healthcare facilities) are located throughout the project area,
30 historic and future projected trends in air quality as well as the results of the project-specific
31 air quality analyses indicate that air quality in the area as measured by transportation-related
32 emissions is projected to improve, not worsen.

33 During the construction phase of this project, temporary increases in PM and MSAT emissions
34 may occur from construction activities. The primary construction-related emissions of PM are
35 fugitive dust from site preparation, and the primary construction-related emissions of MSAT
36 are diesel particulate matter from diesel-powered construction equipment and vehicles. There
37 may also be a temporary increase in construction-related emissions for community members
38 residing near the project site who open their windows for ventilation year-round due to
39 preference or economic reasons.

5.7.4.4 Construction Emissions Minimization and Monitoring Activities

The following activities are proposed by TxDOT to help minimize construction emissions and exposure to those emissions:

- Dust control: The potential impacts of PM emissions will be minimized by using fugitive dust control measures contained in standard specifications. Item 204 of TxDOT's standard specifications requires the application of water for dust control, earthwork, or base construction, and the use of sprinklers and spray bars equipped with positive and rapidly working cut-off valves.
- Weatherization: In recognition of the number of low-income residents located in close proximity to the I-45 corridor, TxDOT will develop a program to provide weatherization and energy efficiency for qualifying low-income single-family residences. Weatherization refers to improvements to a residence to make it more resistant to certain outdoor elements.
- TxDOT will develop a program to ensure that air monitoring will be regularly checked and will address any air quality issues if they should arise. For a minimum period of five years during construction, TxDOT will fund ambient air monitoring near the right-of-way at one location in Segment 2 and one location in Segment 3. Additional information about air monitoring is in Section 5.9.3.7.

5.8 Safety

Houston Fire and Police Departments provide protection, ambulance, rescue, and emergency response in their respective jurisdictions throughout the city. The Houston Police Department Headquarters and the Special Operations Division are located in Downtown. Neighborhood police substations/storefronts are located in Greater Greenspoint, Northside/Northline, Near Northside, Independence Heights, Acres Home, Greater Third Ward, and Greater Heights neighborhoods. The Houston Fire Department Administration Building is located in Downtown, and neighborhood fire stations are located in Greater Greenspoint, Northside/Northline, Near Northside, Independence Heights, Acres Home, Greater Heights, Downtown, Midtown, Greater Fifth Ward, Greater Third Ward, and Second Ward. Police and fire stations are shown on the land use and community facilities exhibits in Appendix D.

5.8.1 Segment 1: I-45 from Beltway 8 to I-610

Two fire stations are located within one mile of the existing right-of-way of I-45. The North Division Police Station and three police substations/storefronts are located within one mile of the existing right-of-way. No fire stations or police stations and substations are located in the proposed right-of-way of the Preferred Alternative.

5.8.2 Segment 2: I-45 from I-610 to I-10

Two fire stations are located within one mile of the existing right-of-way of I-45. No fire stations are located in the proposed right-of-way of the Preferred Alternative. Houston Fire Station 30 is located in Near Northside at 6702 Irvington Boulevard, east of the I-45/I-610 interchange.

Currently, due to lack of frontage roads in the area of the I-45/I-610 interchange, traffic may cut through nearby residential areas to access I-45, I-610, and other destinations. Increased traffic in areas with significant bicycle and pedestrian activity raises safety risks for adults and children walking along local streets to community centers, parks, and schools. The Preferred Alternative would improve connectivity and access to I-45 and I-610, which would help reduce cut-through traffic in residential areas and near neighborhood parks and schools.

5.8.3 Segment 3: Downtown Loop System

Six fire stations and four police substations and two storefronts are located within one mile of the existing right-of-way. The South Central Police Station (2202 St. Emanuel Street) at the southeast corner of the I-45 and US 59/I-69 interchange is adjacent to the proposed right-of-way of the Preferred Alternative. Although a proposed exit ramp from US 59/I-69 North to Gray Street was modified to avoid direct impacts to the City of Houston Police Department (HPD) building, access to the remaining property would not be adequate and the HPD would have to relocate. TxDOT is coordinating with the COH and HPD and to determine a suitable location for a replacement facility so that there is no reduction in services in the area. No fire stations are located in the proposed right-of-way of the Preferred Alternative.

5.8.4 Summary of Impacts

The Preferred Alternative would enhance safety by upgrading roadway facilities to meet current design standards and providing improved capacity for existing and future traffic. The proposed project is planned to increase safety and facilitate traffic movement during a hurricane evacuation and other events that require emergency response along roadway facilities.

The Preferred Alternative is not anticipated to change access or impact use of local roads that may serve as emergency response routes to neighborhoods. TxDOT will coordinate with city and county officials during design to avoid impacts to emergency response routes in the project area during construction. The Preferred Alternative would not affect public safety in neighborhoods.

Proposed mitigation for impacts to safety is further discussed in Section 6.0.

5.9 Environmental Justice

Executive Order (EO) 12898-Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations requires federal agencies to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate,

disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations” (Office of the President 1994). EO 12898 also directs agencies to develop a strategy for implementing environmental justice. The methodology for determining minority and low-income populations is discussed in Section 3.1.

Exhibits that show high-minority and low-income population areas are provided in Appendix C, and race and ethnicity data is presented in Appendix C, Table C-1. High-minority areas are presented at the census block level and low-income areas are presented at the census block group level.

5.9.1 Assessing Environmental Justice Impacts

5.9.1.1 What is Environmental Justice and how do we evaluate it?

Environmental justice involves the inclusion of fairness and equity into decision-making. TxDOT’s goal in preparing this analysis is to incorporate these concepts into the development of the NHHIP. Evaluating environmental justice is performed under a number of directives and policies, including:

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires federal agencies to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” EO 12898 also directs agencies to develop a strategy for implementing environmental justice.

FHWA Order 6640.23A, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, establishes policies and procedures for the FHWA to use in complying with EO 12898.

Title VI of the Civil Rights Act of 1964 (Title VI) states that “[n]o person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.” Title VI prevents discrimination, whether intentional or unintentional, for person(s) in the United States solely because of their race, color, national origin to be subjected to disparate (unequal) treatment or impact, in any program or activity receiving Federal financial assistance from FHWA under Title 23 U.S.C.

Council on Environmental Quality’s (CEQ) guidance, *Environmental Justice: Guidance Under the National Environmental Policy Act*. This guidance is intended to assist Federal agencies with their NEPA procedures so that environmental justice concerns are effectively identified and addressed.

1 As assessment of project-area demographics was performed as part of the community impact
2 analysis and is a necessary step in considering environmental justice issues related to a
3 project. Demographic data for the NHHIP study area is discussed in Section 3.1 and
4 Section 4.1 of this report. Additional discussion of demographic data specific to
5 environmental justice populations is discussed below.

6 Data for minority populations is provided at the census block level, and data for low-income
7 populations is provided at the census block group level. Data tables for the census profile
8 area can be found in Appendix C. Minority persons include Black (or African-American),
9 Hispanic, American Indian, Alaska Native, Pacific Islander, and Asian-American persons
10 (CEQ 1997). A high minority population is defined as a population within a census block that
11 has a 50 percent or higher minority population. Low-income population is defined as a person
12 whose median household income is at or below the HHS poverty guidelines (FHWA 2012).
13 Poverty guidelines are categorized by the number of persons living in a household. The poverty
14 guidelines for a family of four people in 2019 (in the 48 contiguous states), as defined by the
15 HHS, is a total annual household income of \$25,750 (HHS 2019).

16 Demographic data from the 2010 U.S. Census Bureau and median household income data
17 from the 2012 to 2016 ACS 5-year survey was used to identify potentially affected minority
18 and low-income population areas. Census block groups with a median household income at
19 or below the 2019 HHS poverty guidelines are identified as a low-income population area.
20 Additional field investigations and October 2017 HCAD parcel data were used to verify
21 low-income housing areas, shelters or businesses for homeless people or low-income families,
22 and other community facilities that could be affected by the proposed project.

23 Appendix C includes detailed tables of population estimates, race, and ethnicity
24 characteristics for census tracts, block groups, and blocks in the Census profile area. Median
25 household income data at the census tract and block group level is also presented in
26 Appendix C. Appendix C also contains the Exhibits entitled “Census Study Area Tracts, Block
27 Groups, and High-Minority and Low-Income Areas” which show which census blocks have
28 more than 50 percent minority (per 2010 data) and which block groups have median
29 household incomes for a family of four less than the DHHS poverty threshold (based on ACS
30 data for 2012 – 2016).

31 Minority areas were identified where there was a 50 percent or higher minority population at
32 the census block level. Low-income is defined as a census block group with a median
33 household income at or below the HHS poverty guideline. In addition to identifying
34 environmental justice areas within or directly adjacent to the proposed right-of-way,
35 environmental justice analysis was examined at the neighborhood level – in this case, the
36 super neighborhoods defined by the City of Houston. The neighborhood level also seemed
37 appropriate since public input received often expressed concern or interest specific to
38 particular neighborhoods. Environmental justice populations were identified and analyzed on
39 a neighborhood by neighborhood basis in accordance with the overall community impacts

analysis. Table 5-15 provides this data by super neighborhood. And, for comparison, the same data is provided for the City of Houston.

Table 5-15: Ethnicity and Income in Super Neighborhoods

	Ethnicity					Income	
	Non-Hispanic White	Non-Hispanic Black	Hispanic or Latino	Non-Hispanic Asian	Non-Hispanic Other	% of Block Groups Below HHS Poverty Threshold (\$25,750)	Average Median Household Income
City of Houston	25.6%	23.1%	43.7%	5.9%	1.5%	–	\$49,399
Super Neighborhoods							
Greater Greenspoint	4%	32%	61%	1%	2%	44%	\$28,486
Hidden Valley	15%	13%	67%	5%	0%	0%	\$50,726
Acres Home	10.1%	60.9%	26.7%	0.6%	1.6%	11%	\$45,343
Northside/ Northline	5.7%	10.7%	82.9%	0.3%	0.5%	23%	\$35,633
Independence Heights	14.8%	29.9%	53.9%	0.4%	1.0%	18%	\$35,167
Greater Heights	60.9%	2.3%	30.0%	4.7%	2.1%	0%	\$109,269
Near Northside	7.6%	12.3%	78.9%	0.0%	1.2%	17%	\$36,845
Greater Fifth Ward	6.2%	41.9%	50.6%	0.3%	1.1%	54%	\$32,724
Washington Avenue/Memorial Park	59.0%	5.7%	22.9%	8.6%	3.8%	0%	\$35,040
Downtown	33.5%	31.1%	28.3%	4.7%	2.4%	0%	\$109,486
Fourth Ward	51.0%	19.1%	20.0%	7.9%	2.0%	0%	\$80,491
Second Ward	8.5%	13.5%	74.8%	1.7%	1.5%	13%	\$42,138
Greater Third Ward	17.4%	61.4%	14.3%	5.5%	1.4%	33%	\$33,913
Midtown	75.9%	1.7%	19.7%	1.9%	0.8%	0%	\$80,775
Neartown/Montrose	72.0%	4.1%	13.5%	7.3%	3.1%	0%	\$92,351
Museum Park	50.9%	11.9%	19.4%	13.9%	3.9%	0%	\$83,330
University Place	67.2%	5.8%	8.6%	13.9%	4.5%	0%	\$135,087

Source: U.S. Census Bureau 2010, U.S. Census Bureau 2017

As indicated by the data in Table 5-15, 10 of the 17 super neighborhoods in the study area are predominantly minority. As can be seen in Figure 5-1, these super neighborhoods are not congregated at any particular location in the study area.

As indicated in Table 5-15, one super neighborhood, Greater Fifth Ward, has a majority of its block groups with median household income at or below the 2019 HHS poverty guideline. At the census block group level, 18 of the 78 block groups in the study area have a median household income at or below the 2019 HHS poverty guideline.

Along the length of the Preferred Alternative, the majority of the adjacent residential areas include environmental justice populations (minority and/or low-income) as measured at both the census block level (for race) and census block group level (for income) as well as at the super neighborhood level. This level of environmental justice populations in the study area merits further consideration and analysis as provided below.

1 *5.9.1.2 How has TxDOT provided access to project information and included environmental*
2 *justice populations in public outreach?*

3 FHWA guidance suggests that an analysis of environmental justice impacts include “a
4 discussion of major proactive efforts to ensure meaningful opportunities for public
5 participation including activities to increase low-income and minority participation.” TxDOT
6 conducted continuous public involvement for the NHHIP for more than eight years, including
7 public and neighborhood meetings in the most directly impacted neighborhoods. Public
8 involvement and agency coordination for the EIS included scoping meetings, public meetings,
9 a public hearing, and more than 300 meetings with stakeholders along the project corridor.

10 Because the study area for the NHHIP is predominantly made up of environmental justice
11 populations and because these populations are dispersed throughout the corridor, the
12 outreach and public involvement for the project, in total, encompasses outreach directed
13 toward, and inclusive of, environmental justice populations. As a result, there were specific
14 public outreach activities that were directed toward environmental justice neighborhoods. In
15 these instances, TxDOT’s outreach included providing information at community events,
16 neighborhood meetings or civic club gatherings as well as meetings specific to environmental
17 justice stakeholders and businesses. Appendix A provides a detailed summary of the public
18 involvement for the NHHIP. Table A-2 in Appendix A provides details on specific environmental
19 justice-related meetings.

20 Inclusive of the public outreach were efforts to accommodate limited-English speaking
21 populations. Data, field investigations, and public involvement activities showed that there
22 were Limited English Proficiency populations in the project area. Spanish-language materials
23 were available at all meetings, and additional language assistance services (Swahili, Spanish,
24 and Haitian Creole) were provided by HHA during meetings with residents at Clayton Homes
25 and Kelly Village. TxDOT made accommodations for individuals speaking Spanish (the
26 dominant language of LEP individuals in the project area) to ensure that opportunities for
27 community input in the NEPA process have been and would continue to be provided. For the
28 public meetings and hearing, public notices were published in English and Spanish in local
29 newspapers including the Houston Chronicle, Defender, and La Voz (a Spanish language
30 newspaper). Meeting notices were provided in English and Spanish and mailed to adjacent
31 landowners, community organizations, elected officials, government officials, civic groups,
32 and published on the project website. The project team had staff available to provide
33 translations during public meetings and hearing as needed, and the presentations, handouts,
34 comment forms, and some exhibits boards were translated into Spanish and posted to the
35 project website. Several informational pamphlets related to right-of-way acquisition and
36 relocation assistance were also provided at meetings and hearing and are posted on the
37 project website. Materials were posted on the project website prior to the public meetings and
38 hearing, and all materials remain on the website. The mailed notices and newspaper
39 announcements provided information on how citizens could request language interpreters.
40 Although no advance requests for interpreters were received, some meeting attendees

1 preferred speaking Spanish and they were directed to and assisted by the team members who
2 were fluent in Spanish. At the public hearing, TxDOT provided simultaneous Spanish
3 translation during the presentation and comments period. Additional information about LEP
4 accommodations and TxDOT's efforts to promote inclusive public involvement during
5 development of this project is included in Appendix A, Section 3.

6 Input from these engagement activities has resulted in design changes in the project and has
7 assisted in developing mitigation actions. Design changes are described in Appendix B,
8 Table B-1. Mitigation actions are described in Section 6. Community outreach and public
9 involvement will continue as the project continues to develop. For construction activities, in
10 particular, TxDOT will develop a communication plan for local businesses, stakeholders and
11 residences. These future activities will continue to recognize and consider the input from the
12 environmental justice populations in the area.

13 *5.9.1.3 What are the effects to the environmental justice populations in the study area?*

14 For the purpose of this analysis, consideration of the effects to environmental justice
15 communities is at the super neighborhood level. Other effects, such as environmental
16 justice-related businesses or services, are considered individually. As indicated by the
17 demographics previously discussed, 10 super neighborhoods are defined as environmental
18 justice communities. These 10 super neighborhoods are indicated in Table 5-16. Even though
19 the discussion below is related to these 10 super neighborhoods, the presence of
20 environmental justice populations in other affected neighborhoods is not ignored. Effects to
21 all 17 super neighborhoods are discussed in other parts of this analysis. Additionally,
22 project-wide mitigation developed and directed toward environmental justice populations will
23 be available to qualifying residents in all the neighborhoods.

24 This community impact assessment assesses a variety of information (demographics, income,
25 history, amenities, mobility, etc.) about the communities in the study area and has estimated
26 impacts from the Preferred Alternative. This assessment is inclusive of environmental justice
27 populations and communities. This Section provides further discussion related to
28 environmental justice communities and the following subjects:

- 29 ▪ Displacements and Housing
- 30 ▪ Businesses and Community Facilities
- 31 ▪ Public Transportation
- 32 ▪ Access, Mobility and Safety
- 33 ▪ Traffic Noise
- 34 ▪ Air Quality
- 35 ▪ Homeless Populations

1 *Displacements and Housing*

- 2 To summarize and further assess the effects to environmental justice communities resulting
3 from displacements, Table 5-16 indicates displacements in the 10 environmental justice
4 neighborhoods by individual residences, multi-family units, and public housing.

Table 5-16: Residential Displacements in Environmental Justice Super Neighborhoods

Super Neighborhood	Single-family homes	Multi-family units (non-public housing)	Public Housing units
Greater Greenspoint	0	0	0
Hidden Valley	0	0	0
Acres Home	0	0	0
Northside/ Northline	34	6	0
Independence Heights	27	138	0
Near Northside	34	38	0
Greater Fifth Ward	32	0	50*
Downtown	2	245**	0
Second Ward	0	0	296***
Greater Third Ward	6	64	0

*Houston Housing Authority / Kelly Village

**165 of these displacements occur at Lofts at the Ballpark apartments (not an environmental justice population), 80 of these displacements occur at Temenos Place Apartments II (an environmental justice population)

*** Houston Housing Authority / Clayton Homes

Displacements and other effects to these communities are discussed in Sections 5.1 and 5.2. In general, displacement of residences can affect the cohesion of a community, especially if that community has a history and a culture that gives it a unique identity. From the information and analysis in Sections 5.1 and 5.2 it is apparent that most of the environmental justice communities indicated in Table 5-16 have a history and culture that is identifiable in the community today. For example, the Independence Heights community has a history that goes back over 100 years and has indicated through community planning studies the desire for historic and cultural preservation. As indicated in Table 5-16, the potential effects to community cohesion related to residential displacements could be expected to be felt more so in the neighborhoods of Northside/Northline, Independence Heights, Near Northside, Greater Fifth Ward, Downtown, Second Ward, and Greater Third Ward.

From a community-wide perspective, the loss of residents might be recurrent or cumulative with other activities that have affected, or are affecting, a community and thereby creating a cumulative effect that is more adverse than the individual effect associated with the project. Other associated effects occurring in these neighborhoods (to varying degrees) include impacts from flooding and floodplain buyout programs, previous transportation projects, as well as housing affordability associated with gentrification.

Gentrification is changing the appearance and fabric of the neighborhoods in the NHHIP study area and, in particular, the environmental justice communities listed above. One indicator of this is increasing housing values. As indicated in Table 5-17, most of the communities have seen substantial increases in median home values. The three environmental justice communities exhibiting the greatest increase in median home values between 2000 and 2015 are Independence Heights, Greater Fifth Ward and Greater Third Ward.

1

Table 5-17: Housing Values in Environmental Justice Super Neighborhoods

Super Neighborhood	Median Housing Value (2015)	Percent Increase (2000-2015)
Greater Greenspoint	\$55,134	-34%
Hidden Valley	\$87,584	28%
Acres Home	not available	n/a
Northside/ Northline	\$86,435	73%
Independence Heights	\$138,954	227%
Near Northside	\$127,793	168%
Greater Fifth Ward	\$87,797	203%
Downtown	\$200,831	105%
Second Ward	\$117,389	176%
Greater Third Ward	\$148,074	201%

2

Source: City of Houston 2017a

3

4 From the displacee's perspective, the disruption associated with moving can affect a
5 resident's access to a social structure to which they have become familiar over time. This
6 social structure can include community activities (church and school) and other regular
7 routines such as grocery shopping, childcare and medical services. Individual circumstances
8 will vary making it difficult to assess the extent of adverse effects related to residential
9 displacements, however; low-income and limited English proficiency populations may be
10 especially vulnerable to such effects.

11 The proposed project would impact public housing communities and privately-owned housing
12 projects for low-income families and individuals and persons with disabilities. These facilities
13 include Kelly Village, Clayton Homes, Temenos Place Apartments II, and Midtown Terrace
14 Suites. Further discussion on these facilities can be found in Sections 5.1 and 5.2. All the
15 units at Clayton Homes (296 multi-family residential units, although 112 of the existing units
16 were damaged by Hurricane Harvey in 2017 leaving 184 livable units) and a portion of the
17 units at Kelly Village (50 multi-family residential units) would be affected. The Kelly Village and
18 Clayton Homes developments are funded through the federal Low-Rent Public Housing
19 Program that is administered through the Houston Housing Authority (HHA).

20 The Temenos Place Apartments II, located in the Downtown super neighborhood, is managed
21 under a nonprofit organization (Temenos Community Development Corporation) and offers
22 affordable housing for low-income individuals, homeless individuals, and persons with
23 disabilities. The Temenos Place Apartments II were constructed during the analysis for the
24 March 2017 CIA Technical Report and April 2017 Draft EIS; therefore, this development was
25 not included in the previous impact assessment reports.

26 The Midtown Terrace Suites, located in the Midtown super neighborhood, provides transitional
27 and long-term housing and support services for veterans. This facility has direct tenant leases
28 for formerly homeless veterans and low-income veterans at risk of homelessness. Supportive
29 services are directly offered to each veteran resident through an on-site Veterans Affairs

1 Community Based Outreach Clinic (Cantwell-Anderson, Inc. 2015). The proposed project
2 would impact one of the buildings, which has approximately 60 multi-family residential units.

3 *Businesses and Community Facilities*

4 In addition to residential displacements, businesses and other facilities that serve minority
5 and/or low-income populations would be displaced by the proposed project. These businesses
6 and community facilities are described previously in Sections 5.2 and 5.3. Additionally,
7 Table 5-18 provides a summary of the business and community facilities that would be
8 displaced or otherwise be affected, and which may specifically affect environmental justice
9 populations and how the impact will be mitigated.

10 *Public Transportation*

11 Many of the bus routes in Segment 1 serve low-income and high minority populations.
12 Approximately 19 bus stops in high minority areas and 16 bus stops in low-income areas could
13 require relocation. Relocations of bus stops may affect accessibility to community facilities,
14 medical care offices, and government assistance facilities. The Preferred Alternative would
15 not permanently affect existing public bus service routes; however, bus stops along I-45 that
16 are in the proposed right-of-way would be displaced, either permanently or temporarily during
17 project construction. METRO's bus routes and bus stops, including potentially displaced bus
18 stops, are shown in the exhibits in Appendix F. TxDOT will coordinate with METRO to facilitate
19 timely planning for bus stop relocations and bus route detours. TxDOT will continue to
20 communicate with METRO about the project design throughout the design phase. METRO
21 would notify riders at least one week in advance of any temporary bus stop relocations or
22 closures and bus route changes. METRO would install temporary bus stops out of the
23 proposed right-of-way as close as possible to the original bus stop locations. Impacts related
24 to the relocation of bus stop and changes to routes are discussed in Section 5.5.

25 *Access and Safety*

26 Mobility and safety for all the adjacent neighborhoods are discussed in Section 5.5 of this
27 assessment. The discussion below summarizes some of the effects related to environmental
28 justice communities.

29 One of the goals of the project is to improve the safety and operation of the NHHIP. Related
30 to this subject are the potential effects to access and safety in adjacent communities with
31 respect to vehicular traffic, pedestrians, and cyclists. Section 5.4 provides a discussion of this
32 subject for all the neighborhoods in the study area. The discussion below summarizes this
33 discussion for the 10 environmental justice communities.

34 The portion of the project adjacent to the Greater Greenspoint, Hidden Valley, Acres Home
35 and Northside/Northline super neighborhoods would see no changes in accessibility to cross
36 streets in their respective communities as all existing cross streets in these areas would be
37 maintained. No new barriers to access would be created. One area that would see
38 improvement in access would be at Blue Bell Road. Blue Bell Road does not currently cross
39 I-45 but would be connected as part of the project. This design element would reconnect Blue

1 Bell Road, which was bisected when the interstate was originally constructed, and improve
2 access between the Hidden Valley and Greater Greenspoint communities. The neighborhoods
3 would see only slight changes to access to and from the mainlanes of I-45 as some entrance
4 and exit ramps are shifted.

5 For the portion of the project adjacent to Independence Heights and Near Northside there
6 would be no changes in access to existing cross streets and minimal effects to access to the
7 mainlanes due to the removal of two exit ramps and shifting of others. No new barriers to
8 access would be created between or within the adjacent communities. The proposed work at
9 the IH-45/IH-610 interchange would substantially improve local mobility in the neighborhoods
10 adjacent to the interchange. The interchange, completed in 1962, created a barrier since it
11 was constructed over the local street grid at the time and does not provide for local traffic (i.e.,
12 travel via frontage roads) to travel through the interchange in any direction. To travel from one
13 side of the interchange to the other, local traffic must currently use one of the underpasses
14 that is either Airline Drive (0.4 mile to the west), Link Road (0.4 miles to the south), Fulton
15 Street (0.3 miles to the east), or Stokes Street (0.4 miles to the north). The proposed
16 improvements will provide frontage roads through the interchange in all directions and create
17 better local mobility across and through the interchange, including between the
18 neighborhoods of Independence Heights, Greater Heights and Near Northside. Additionally,
19 since sidewalks and bike lanes will be included with the frontage roads, pedestrian and bicycle
20 access will be created where there is none currently.

21 In the neighborhoods that comprise Downtown and Greater Fifth Ward, there would be a
22 number of changes in access due to the Pierce Elevated being removed and two major
23 interchanges being reconstructed. The existing Downtown Loop System consists of three
24 interstate highways that create a loop around Downtown. I-45 forms the western and southern
25 boundaries of the loop. The loop includes three major interchanges: I-45 and I-10, I-10 and
26 US 59/I-69, and US 59/I-69 and I-45. The Preferred Alternative would reconstruct all of the
27 existing interchanges in the Downtown Loop System. Overall, access to and from I-10 from
28 Downtown would generally improve as a result of the proposed project.

29 In the Greater Fifth Ward area, access to and from I-10 and US 59/I-69 would not change in
30 a substantial manner. However, the eastbound I-10 continuous frontage road, Jensen Drive
31 intersection improvements, and proposed exit ramp to Gregg Street would improve traffic flow
32 in the portion of Greater Fifth Ward south of I-10 and east of Jensen Drive, an area which is
33 currently undergoing rapid development. Under the Preferred Alternative, I-45 would be
34 rerouted to parallel I-10 on the north side of Downtown and parallel US 59/I-69 on the east
35 side of Downtown.

36 In the Second Ward, drivers would continue to be able to access US 59/I-69 via the entrance
37 ramp at Chartres Street to continue north on US 59/I-69 or access eastbound and westbound
38 I-10. The addition of exit and entrance ramps along US 59/I-69 would not have a substantial
39 impact on Second Ward drivers. Overall, travel patterns in the Second Ward would change to

a minor degree as a result of the Preferred Alternative, as access to and from US 59/I-69, I-10, and Downtown would be maintained.

Overall, the proposed improvements under the Preferred Alternative could affect travel patterns for Greater Third Ward drivers. The rerouting of I-45 and the removal of the Pierce Elevated would change for drivers who currently use that route. Drivers from Greater Third Ward would continue to be able to access adjacent neighborhoods using major cross-streets.

Traffic Noise

The potential community-related effects to traffic noise are described in Section 5.6. The effects described in that Section include traffic effects in environmental justice communities. Noise barriers that are feasible (achieve the required noise reduction) and reasonable (do not exceed the cost-effectiveness criterion), per TxDOT's guidelines are proposed. As described in that section, a number of environmental justice communities would be receiving the opportunity for noise barriers.

Air Quality

The potential community-related effects to air quality are described in Section 5.7. These effects can be associated with environmental justice communities and non-environmental justice communities alike. The NHHIP is not anticipated to cause or worsen any exceedance of any of the EPA health-based air quality standards. It is also noteworthy that the Texas Commission on Environmental Quality (TCEQ) trends modeling for Harris County indicate on-road mobile source related criteria pollutants and precursor emissions are projected to decline in the future as well. With regards to mobile source air toxics (MSAT), a quantitative MSAT analysis indicated that overall emissions of MSAT are projected to decline in the future from the base scenario, regardless of whether the NHHIP project is constructed or not.

In general, there are health effects related to transportation-related emissions; and there are sensitive populations along the project route, including numerous schools, parks, and health-care facilities. However, considering the historic and future projected trends in transportation air quality as well as the results of the project air quality analyses, air quality in the area as measured by transportation-related emissions is projected to improve, not worsen.

During the construction phase of this project, temporary increases in particulate matter (PM) and MSAT emissions may occur from construction activities. The primary construction-related emissions of PM are fugitive dust from site preparation, and the primary construction-related emissions of MSAT are diesel particulate matter from diesel powered construction equipment and vehicles. There may also be a temporary increase in construction-related emissions for community members residing near the project site who open their windows for ventilation year-round due to preference or economic reasons.

Homeless Population

Homeless individuals live under bridges in areas in or adjacent to Downtown Houston near US 59/I-69 and Congress Street, I-45 under the Pierce Elevated, and other areas near the

1 I-45/I-610 interchange. Some areas currently under bridges used by homeless individuals or
2 are part of a homeless encampment would change because of the proposed project, and
3 homeless individuals would no longer be able to reside in these areas.

4 Assistance for those needing to be relocated will be handled through homeless initiatives like
5 “The Way Home”, which has a goal to provide support services and housing for homeless living
6 within the City of Houston. TxDOT met with the City of Houston Mayor’s Office for Homeless
7 Initiatives and the Coalition for the Homeless of Houston/Harris County, which is the lead
8 agency for obtaining and managing Federal and other funding and serves as the lead agency
9 for “The Way Home” Continuum of Care program. At these meetings, the potential impact of
10 the project to homeless persons was discussed. TxDOT will continue to coordinate with the
11 City of Houston and homeless services providers to develop a plan to assist in the relocation
12 of homeless persons in a sensitive way.

13 The Preferred Alternative would displace facilities that serve homeless or low-income
14 individuals, including Helping Hands Charity (3108 Nance Street), Loaves and Fishes
15 Magnificat Houses Ministries (2009 Congress Avenue), and SEARCH Homeless Services
16 (2015 Congress Avenue). The Helping Hands Charity in the Greater Fifth Ward collects
17 donations for the local community and schools, and Loaves and Fishes Magnificat Houses
18 Ministries in East Downtown provides food, medical care, and/or housing for low-income and
19 homeless populations. A limited number of facilities offer similar services in the area, and
20 these populations may not have resources for food, shelter, and medical care if the facilities
21 were displaced. Advance acquisition of property would provide additional time for these
22 facilities to relocate. The organizations could lease back or negotiate a term to remain on their
23 current property while they secure a new location and build a new facility. Helping Hands plans
24 to relocate on adjacent property they currently own, and the Helping Hand Center building
25 could potentially be moved to the portion of their property that would not be impacted by
26 right-of-way acquisition. Loaves and Fishes Magnificat House Ministries and SEARCH
27 Homeless Services both plan to relocate near downtown, where they could provide the same
28 services to their clients. TxDOT will assign a relocation counselor to assist all these facilities,
29 and during the right-of-way acquisition process they will be able to remain in their existing
30 facilities for the agreed amount of time negotiated between TxDOT and the property owner.
31 Relocation assistance and payment for reasonable moving and related expenses would be
32 provided by TxDOT.

33 **5.9.2 Consideration of Disproportionately High and Adverse Impacts**

34 Executive Order 12898, directs each federal agency to “make achieving environmental justice
35 part of its mission by identifying and addressing, as appropriate, disproportionately high and
36 adverse human health or environmental effects of its programs, policies and activities on
37 minority and low-income populations.” The order builds on Title VI of the Civil Rights Act of
38 1964 which prohibits discrimination on the basis of race, color or national origin. There are
39 three fundamental principles of environmental justice:

1 To avoid, minimize, or mitigate disproportionately high and adverse human health and
2 environmental effects, including social and economic effects, on minority and
3 low-income populations.

4 To ensure the full and fair participation by all potentially affected communities in the
5 transportation decision-making process.

6 To prevent the denial of, reduction in, or significant delay in the receipt of benefits by
7 minority and low-income populations.

8 Per FHWA Order 6640.23A, disproportionately high and adverse impacts on minority or
9 low-income populations occur if an adverse impact would be: (1) predominantly borne by a
10 minority population and/or a low-income population, or (2) suffered by the minority population
11 and/or low-income population and is appreciably more severe or greater in magnitude than
12 the adverse effect that would be suffered by the non-minority population and/or
13 non-low-income population. FHWA Order 6640.23A further provides, "When determining
14 whether a particular program, policy, or activity will have disproportionately high and adverse
15 effects on minority and low-income populations, FHWA managers and staff should take into
16 account mitigation and enhancement measures and potential offsetting benefits to the
17 affected minority and/or low-income populations. Other factors that may be taken into
18 account include design, comparative impacts, and the relevant number of similar existing
19 system elements in nonminority and non-low-income areas." Furthermore, in accordance with
20 EO 12898, a project would have a disproportionate negative impact on minority or low-income
21 populations if it would result in denial, reduction, or substantial delay in the receipt of benefits
22 by these populations or if these populations cannot participate fully and fairly in the
23 transportation decision-making process.

24 Environmental justice analysis for the NHHIP is a critical component of the overall
25 environmental analysis because, as identified in this community impact assessment, the
26 majority of the neighborhoods along the project corridor have notably high percentages of
27 minority and low-income populations. Even considering that Houston is a majority minority
28 city, nine out of the 17 super neighborhoods along the corridor have a higher minority
29 percentage than the city overall. Exhibit C-4 in Appendix C shows the geographic distribution
30 of the population in the project area by race and ethnicity. Similarly, nine out of the 17 super
31 neighborhoods along the corridor have a lower average median household income than that
32 for the city as a whole. Based on the demographics of the adjacent super neighborhoods, the
33 effects of the project would be predominantly borne by minority and low-income populations.
34 Similarly, because of income limitations and/or limited English proficiency, the adverse
35 effects on minority and low-income populations could be more severe than the adverse effects
36 that would be suffered by the non-minority population and/or non-low-income population. For
37 these reasons, TxDOT will implement a number of measures and programs that are intended
38 to reduce these adverse effects. The mitigation discussed below is specific to environmental
39 justice populations but is not comprehensive of all the mitigating actions TxDOT is proposing
40 related to the NHHIP. The discussion below highlights mitigation specifically directed at

impacts to EJ populations. For a summary of all community impact mitigation, including that listed below, see Section 6.0

5.9.3 Mitigation

Mitigating the adverse effects of the proposed project has been ongoing during the development of the NHHIP. Throughout this analysis, details about discussions that have occurred at the public meeting and hearing level, stakeholder engagement level, and between TxDOT and individual entities have been provided. Designs have been altered to avoid or minimize impacts in numerous locations. Effects to community cohesion have been considered, and will continue to be considered through project construction. Requests for advance acquisition of right-of-way have been accommodated to assist property owners with special circumstances. These various measures to avoid, minimize, and mitigate impacts have been developed in cooperation with the potentially affected parties and described throughout this document as well as listed in the tables in Section 6.0. However, the discussion that follows is intended to specifically enumerate mitigation measures that will be taken to address potential adverse effects to environmental justice communities.

5.9.3.1 Displacements - Relocations

The procedures for relocations will follow TxDOT's Right-of-Way Acquisition Manual along with the supplemental measures that are described below. Residents who are displaced as a result of the NHHIP will receive assistance to relocate. This assistance applies to tenants as well as owners occupying the property. Additionally, TxDOT's relocation assistance program will supplement and assist with additional costs associated with purchasing a replacement home to the extent that replacement home values exceed the final compensation paid to the homeowner. Available relocation assistance also includes reimbursement of moving costs and certain related expenses incurred in moving. The relocation process will follow the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, Title VI of the Civil Rights Act of 1964, and TxDOT's right-of-way acquisition policies and procedures.

Homeowners will receive a fair market value offer for their property. Each displaced person will be given sufficient time to plan for an orderly, timely and efficient move. TxDOT's goal for notification to displacees is to notify them at least 180 days before they need to move. Earlier acquisition to accommodate hardships or other needs will be considered. Otherwise, contact with property owners will be phased based on acquiring needed right-of-way and adjusting utilities to meet the construction schedule. No person lawfully occupying real property will be required to move from that site without at least a 90-day written notice. The timing of these activities is based on the current expectation on phased implementation of the project and related estimated construction start dates. Estimated construction start dates are:

Segment 1 – no sooner than 2026

Segment 2 – no sooner than 2024

Segment 3 – late 2021

1 In addition to fair market value for the property, qualifying owners will receive a purchase
2 supplemental as well as assistance with incidental costs necessary to purchase a comparable
3 decent, safe, and sanitary replacement dwelling. The purchase supplemental includes the
4 amount that a comparable replacement dwelling exceeds the acquisition cost of the
5 displacement dwelling and certain loan-related fees and costs. This replacement housing
6 supplemental assistance provides the opportunity for a displaced resident to relocate to a
7 comparable residence in the same neighborhood even though the cost of the replacement
8 home might be more than the acquisition cost of the displacement dwelling.

9 For tenants, a rental assistance supplement will be available to assist when renting a decent,
10 safe and sanitary replacement dwelling and will provide the opportunity to relocate to a
11 comparable residence in the same neighborhood. TxDOT will determine the maximum
12 payment available in accordance with established procedures.

13 Owner-occupants of less than 90 days and tenants may be eligible for down-payment
14 assistance and related incidental expenses, not to exceed the amount of the approved rental
15 assistance supplement. Incidental expenses for replacement housing include the reasonable
16 costs of loan applications, recording fees and certain other closing costs.

17 Displaced residents and tenants will be offered relocation assistance in the form of individual
18 advisory services for the purpose of locating a suitable replacement property. These services
19 will be provided by qualified personnel employed by, or contracted with, TxDOT. In providing
20 these services, TxDOT will consider language needs, mobility restrictions and other special
21 provisions that might be needed to communicate these services to the intended audience.
22 These services are intended to guide the affected residents through the process and facilitate
23 the transition into the new residence.

24 Individual advisory services will:

- 25 ▪ Determine needs and preferences of displacees
- 26 ▪ Explain relocation benefits
- 27 ▪ Offer transportation if necessary
- 28 ▪ Assure the availability of a comparable residential property in advance of
- 29 displacement
- 30 ▪ Provide current listing of comparable properties
- 31 ▪ Provide the amount of the replacement housing payment in writing
- 32 ▪ Inspect residential dwellings for decent, safe and sanitary acceptability
- 33 ▪ Supply information on other federal and state programs offering assistance
- 34 ▪ Provide counseling to minimize hardships

35 Group/Program informational workshops will supplement the individual advisory services and
36 will include:

- 37 ▪ Explaining the acquisition process

- Explaining the relocation process
- Explaining the appraisal process
- Title Information and review of documents
- Property tax & exemption impacts
- Moving and move planning
- First Time Homebuyer seminars
- Escrow process and title clearing
- How to get social services and benefits
- How to select a real estate agent
- How to check your credit and improve your score
- Household budgeting
- Household maintenance

5.9.3.2 Displacements - Affordable Housing

Some of the effects to environmental justice communities would be spread somewhat equally along the project corridor (e.g., traffic noise). Other effects would be more clustered and be more prevalent in some neighborhoods or non-existent in others. Residential displacements due to right-of-way needs are an example of the latter. As indicated in Table 5-16, the potential effects of residential displacements could be expected to be more prevalent in the super neighborhoods of Northside/Northline, Independence Heights, Near Northside, Greater Fifth Ward, Downtown, Second Ward, and Greater Third Ward due to the relatively high number of displacements in these super neighborhoods if the project is constructed. It is worth noting here that the displacements in Downtown and Second Ward are largely the result of the effects to two multi-family complexes – Temenos Place Apartments II and Clayton Homes, respectively. The displacement effects associated with these two facilities is largely offset by agreements with the owners/managers of these facilities that will provide for the displaced residents to move into newly constructed facilities nearby.

The relocation assistance program described previously will be available to assist those displaced and is intended to support and encourage those wanting to stay in the community by giving them the means to do so. However, another aspect to consider is affordable housing, particularly from the perspective of community cohesion. As shown in Table 5-17, the environmental justice communities exhibiting the strongest indications of affordable housing problems (as measured by the increase in median home values between 2000 and 2015) are Independence Heights, Greater Third Ward, Fifth Ward, Second Ward and Near Northside (the top four, in descending order). In consideration of the impacts of the Preferred Alternative, TxDOT intends to support affordable housing initiatives in those communities most affected. The mitigation is intended to compensate for the direct effects of residential displacements, the indirect effects of potentially contributing to ongoing housing affordability problems, and past and present contributions to recurrent adverse effects. TxDOT will provide financial

1 assistance to neighborhoods to support specific affordable housing initiatives. The eligible
2 initiatives include construction of affordable housing and supporting programs that provide
3 assistance and outreach related to affordable housing. To carry out this commitment, TxDOT
4 is committing an amount of no less than \$27 million towards developing affordable housing
5 in the neighborhoods most affected by the proposed project, which include EJ neighborhoods.
6 TxDOT is currently working on developing appropriate partnerships and mechanisms to apply
7 this funding in the most efficient and effective manner. Additional details on this program are
8 expected to be available at the time TxDOT issues the Record of the Decision for the project.

9 In community planning efforts and through public input on the NHHIP, the Independence
10 Heights Redevelopment Council has indicated a need and desire to address housing
11 affordability in their neighborhood. TxDOT has considered the degree of impact to the
12 Independence Heights neighborhood from the proposed project, as well as recurrent impacts
13 from past transportation projects, and has decided that supporting the development of
14 affordable housing in Independence Heights would contribute to offsetting the adverse effects
15 to the community from the proposed project.

16 TxDOT identified similar but lesser impacts to the super neighborhoods of Near Northside,
17 Greater Fifth Ward, and Greater Third Ward. TxDOT has initiated coordination with
18 representation from these super neighborhoods to discuss the development of affordable
19 housing in these areas.

20 *5.9.3.3 Displacements - Public Housing*

21 TxDOT is coordinating with the HHA for advance acquisition of the entire Clayton Homes
22 complex and the specific units required at Kelly Village with the anticipated effect that HHA
23 will be able to construct new housing that would be available to the displaced residents of
24 Clayton Homes and Kelly Village at the time they need to move. The current plan for the
25 relocation of Clayton Homes residents is for over 70 percent of replacement housing to be
26 within one mile of the existing Clayton Homes complex and for the 296 units to be replaced
27 at current standards with multiple upgrades.

28 TxDOT has been in coordination with the Temenos Place Apartments II management on
29 advanced acquisition. During the relocation process, the residents will be able to remain in
30 the existing facility for the agreed amount of time negotiated between the property owner and
31 TxDOT so that the existing organization can continue to provide housing to low-income persons
32 and provide counseling services to their residents during the relocation process. TxDOT has
33 executed an agreement with the Temenos Place Apartments II management so that all
34 reasonable efforts will be made to replace the 80 residential units affected by the project
35 within a one-mile radius of the existing Temenos II facility.

36 TxDOT met with Midtown Terrace Suites and is proceeding with advance acquisition of the
37 building that would be displaced. Midtown Terraces Suites would be provided compensation
38 and plans to rebuild/remodel displaced units on their existing property that would not be
39 affected by right-of-way acquisition. During the relocation process, this organization will be

1 able to remain in the existing facility for the agreed amount of time negotiated between the
2 property owner and TxDOT.

3 *5.9.3.4 Displacements - Businesses and Community Facilities*

4 TxDOT will provide mitigation measures to compensate businesses and service providers that
5 are displaced by a highway project. TxDOT also will provide additional benefits during property
6 acquisition. This assistance can include locating another location as well as financial
7 assistance in the form of moving and related expenses. Such benefits are in addition to
8 TxDOT's offer for the property and are handled separately from the purchase of real property.

9 TxDOT contacted the community organizations and businesses listed in Table 5-18, by letter
10 and/or by phone, or at a meeting to discuss potential impacts and issues of concern. Of
11 particular concern for environmental justice-related facilities and service providers are Loaves
12 and Fishes Magnificat Houses Ministries and SEARCH Homeless Services. TxDOT met with
13 Loaves and Fishes Magnificat Houses Ministries and SEARCH Homeless Services, and these
14 organizations are concerned about being able to relocate in the Downtown area where the
15 majority of services for low-income and homeless individuals are currently located. These
16 organizations would need adequate time to find facilities in the same area to avoid disruptions
17 to these sensitive populations. TxDOT approved advance acquisition for Loaves and Fishes
18 Magnificat Houston Ministries and SEARCH Homeless Services properties. Advance
19 acquisition would provide additional time to identify a new location. During the relocation
20 process, these organizations will be able to remain in the existing facility for the agreed
21 amount of time negotiated between the property owner and TxDOT so that the organizations
22 can continue to provide services to the low-income and homeless individuals during the
23 relocation process. Coordination with these businesses and service providers will continue
24 with the goal of accommodating their relocation needs and minimizing interruptions to their
25 businesses and/or the services they provide.

26 To recognize the location of the to-be-displaced Greater Mount Olive Missionary Baptist
27 Church, TxDOT will work with the community to provide a "pocket park" near its current
28 location along with a plaque or other suitable commemoration of the church's history in the
29 neighborhood.

30 *5.9.3.5 Noise and Visual*

31 Noise impacts and noise barriers are discussed in Section 5.6. In addition to noise barriers,
32 TxDOT is providing the opportunity for adjacent property owners in environmental justice (high-
33 minority and low-income) areas to receive noise mitigation that did not otherwise qualify under
34 TxDOT's noise guidelines or FHWA criteria. These walls are described as "aesthetic walls" in
35 this assessment and would be similar to the noise barriers that TxDOT constructs in the
36 Houston area. The proposed walls could also serve as visual barriers should the adjacent
37 property owners want a visual screen between the property and the highway. TxDOT is
38 proposing this mitigation to further offset adverse effects in environmental justice areas.
39 These walls are proposed where they would be effective for noise mitigation (reduce traffic

noise levels by at least 3 dB(A)) in locations in the TxDOT right-of-way where they would not restrict access to the property, not impede drainage, and otherwise be constructible. Tentative locations are being proposed (see Appendix C, Exhibit C-3). These locations may change during final design of the facility. Ultimately, the decision whether to construct the walls will be decided by a vote of the adjacent property owners similar to the process described for the noise barriers.

5.9.3.6 Noise and Air

To mitigate for potential short-term construction dust or noise impacts, TxDOT will provide funding for weatherization and energy efficiency for qualifying low-income single-family residences.

5.9.3.7 Air Quality Monitoring

Ozone is addressed through regional and project level conformity regulations. The analysis and forecast related to other air quality emissions indicate compliance with regulatory thresholds and downward emission trends. However, public concerns about air quality were expressed from a variety of stakeholder and citizens. As a result, TxDOT will develop and fund an air monitoring program to operate for a minimum period of five years during construction; the monitoring will consist of one location in Segment 2 and one location in Segment 3.

Federal Equivalent Method (FEM) monitors will be used for applicable criteria pollutants, including: PM_{2.5}, NO₂, and CO. PM_{2.5} will be used as a surrogate for diesel particulate matter. Other priority MSAT for which monitoring is reasonable and feasible would be collected via a summa canister sampling system. TxDOT will contract out the operation, maintenance, and reporting of the monitoring results. If any monitored value exceeds the applicable standard, TxDOT will coordinate with TCEQ to determine if further actions are warranted.

5.9.4 Conclusion

The NHHIP is an exceptionally large, 26.4-mile long undertaking in a city that is predominantly minority. Segments 1, 2 and 3 of the NHHIP are 87 percent, 83.5 percent and 73.6 percent minority, respectively, as measured by adjacent census block groups. Similarly, 10 of the 17 super neighborhoods in the study area are predominantly minority. Adverse effects from the proposed project would be experienced by EJ populations.

As directed by FHWA Order 6640.23A, when determining whether a particular program, policy, or activity will have disproportionately high and adverse effects on minority and low-income populations, the decision maker should take into account mitigation and enhancement measures and potential offsetting benefits to the affected minority and/or low-income populations. The mitigation actions described in this assessment substantially offset the adverse effects on minority and low-income populations that would result from the construction of the NHHIP. It is difficult, however, to determine the extent of effects to certain resources and populations since the context of each impact might be specific to an individual, a business, or a service. For example, the relocation of a medical service provider that caters

1 to low-income patients would be dependent on what access to those services would be after
2 the medical office moves. It is possible that, with the relocation benefits provided by TxDOT,
3 the medical office would relocate locally and the new location would be more convenient for
4 some patients and less convenient for others. Some effects would be dictated by an
5 individual's circumstances or preferences. Other effects are pending future actions (e.g.,
6 decisions by businesses or service providers about where to relocate).

7 TxDOT has made a number of commitments to offset the adverse effects of the project on
8 minority and low-income populations related to relocation of residences and facilities,
9 affordable housing, local access, pedestrian safety, traffic noise, air quality, and
10 homelessness. In some of these areas there would be improvements over the existing
11 conditions such as new facilities for the residents of Clayton Homes and Kelly Village, restoring
12 local access in the area around the I-45/Loop 610 interchange, providing the opportunity for
13 noise barriers, and improving safety (e.g., improved pedestrian and bicycle accommodations)
14 on cross-streets in environmental justice neighborhoods. Overall, the proposed improvements
15 to the existing freeway facilities would have benefits that extend to EJ populations including
16 improved safety, expanded capacity for transit use, and improved drainage.

17 Taking all of these factors into account, TxDOT has concluded that the Preferred Alternative
18 as a whole would not have "disproportionately high and adverse effects" on EJ populations.
19 Nonetheless, TxDOT recognizes that some of the specific impacts of the Preferred Alternative
20 may adversely affect EJ populations. Therefore, where possible, the alignment options have
21 been refined through the NEPA process to minimize impacts. Environmental commitments
22 and mitigation measures identified above and in the Final EIS and ROD will address impacts
23 from the NHHIP construction and operation activities that may affect EJ populations. TxDOT
24 proposes measures to mitigate adverse impacts throughout both EJ and non-EJ communities.
25 TxDOT will, however, provide enhanced outreach to EJ communities, particularly Spanish-
26 speaking communities with limited English proficiency, to implement mitigation strategies
27 effectively in those communities.

28 While more detailed analysis of the Proposed Recommended Alternative shows that it would
29 result in more adverse impacts to EJ populations than the initial impacts identified for the
30 other alternatives, TxDOT will provide mitigation measures to a degree that the ultimate
31 resulting impacts on these populations will not be greater than the impacts of the other
32 alternatives.

Table 5-18: Community Facilities and Businesses Utilized by Environmental Justice Populations

Facility and Location	Description	Potential Impacts	Proposed Mitigation
Tenants: North Houston Birth Center*, LLC, Unicare MRI & Diagnostic Center Houston Children's Dental Center and other medical offices	Birth Center and the other medical and dental offices located at 7007 North Freeway that serve low-income populations that qualify for Medicaid or Children's Health Insurance Program (CHIP).	Displacement of building that includes medical offices. According to the Birth Center staff, approximately 95 percent of the patients receive Medicaid benefits. Impacts to other medical offices in the building that serve patients that use Medicaid or CHIP	TxDOT is proceeding with advance acquisition of the property. Tenants will be assigned a relocation assistance counselor who will provide relocation information and assistance including tenant entitlements under TxDOT relocation assistance program. Businesses that perform medical procedures would be required to amend medical licensing to perform medical procedures in a new location and TxDOT will pay for relicensing fees.
Casa Quetzal, operated by Southwest Key Programs	Non-profit organization whose purpose is to "create opportunities and improve the quality of life for thousands of youth and families each day by providing safe shelter, alternatives to incarceration, career development and quality education." Specifically, Casa Quetzal provides shelter for refugee children as they wait to be reunited with their families.	Displacement of building due to loss of parking area	Southwest Key Programs, a non-profit, leases the entire building. TxDOT will assign a relocation assistance counselor and provide relocation assistance to Southwest Key Programs.
AVANCE Training Center	Non-profit organization that assists low-income and at-risk families with early childhood, healthy marriage, and workforce education. The training center assists clients with resume building, preparing for interviews, and job placement.	Displacement of office building	This non-profit leases space in an office building. TxDOT will assign a relocation assistance counselor who will provide current listings of other available properties (if requested).
Pecan Grove Manor	Low-income multi-family residential building for seniors	Potential traffic congestion during construction	TxDOT will communicate with adjacent property owners to provide advance information about construction activities in the area, possible detours, and schedules.
Woodland Christian Towers	Low-income multi-family residential community for seniors	Nearby bus stops on the west side of I-45 along the frontage road at the Tidwell Road and Parker Road intersections would be displaced	TxDOT coordinated with METRO during the planning phase to discuss potential impacts to public transit, and will continue to coordinate during design and construction. METRO will reestablish bus stops as close as possible to current stops, if the bus stop is needed. METRO will notify the public of upcoming temporary and permanent changes to the locations of bus stops, and changes to routes.
Centro Cristiano Church	Place of worship	Displacement of a place of worship that serves Hispanic community	TxDOT is proceeding with advance acquisition of the property; advance acquisition would provide additional time for renovation or relocation of the place of worship. TxDOT will assign a relocation assistance counselor who will provide current listings of other available properties (if requested).

Facility and Location	Description	Potential Impacts	Proposed Mitigation
Alpha and Omega Christian Academy /Daycare	Private school and daycare	Displacement of school building that serves Hispanic community	<p>TxDOT is proceeding with advance acquisition of the property; advance acquisition would provide additional time for renovation or relocation of the school.</p> <p>TxDOT will assign a relocation assistance counselor who will provide current listings of other available properties (if requested).</p>
Medical care offices (Parker Road and I-45)	Local medical facility services for low-income and high minority populations. One sign for a pharmacy is Spanish.	Two bus stops located west of I-45, the closest to this medical care office, may be relocated; and loss of few parking spaces	TxDOT coordinated with METRO during the planning phase to discuss potential impacts to public transit, and will continue to coordinate during design and construction. METRO will reestablish bus stops as close as possible to current stops, if the bus stop is needed. METRO will notify the public of upcoming temporary and permanent changes to the locations of bus stops, and changes to routes.
Iglesia Evangelica Vida	Place of worship that serves Hispanic community (located in an office building)	Displacement of facility that serves Hispanic community	This place of worship leases their space in the office building. TxDOT will assign a relocation assistance counselor who will provide current listings of other available properties (if requested).
Iglesia Cristiana La Senda	Place of worship that serves Hispanic community	Construction related impacts (increased traffic, noise)	TxDOT will communicate with adjacent property owners through TxDOT's PIO during construction activities.
Del Angel Funerarias	Funeral home that serves the Spanish-speaking community	Construction related impacts (increased traffic, noise)	TxDOT will communicate with adjacent property owners through TxDOT's PIO during construction activities.
La Michoacana Meat Market (grocery store)	Hispanic specialty grocery store, meat market, and taqueria	Loss of some parking spaces, and one adjacent bus stop	Another bus stop located closer to this facility would not be impacted by the proposed project and could be used as an alternative. TxDOT will communicate with adjacent property owners through TxDOT's PIO during construction activities.
El Rancho Supermercado (grocery store)	Hispanic specialty grocery store	Loss of some parking spaces, and one adjacent bus stop	TxDOT will communicate with adjacent property owners through TxDOT's PIO during construction activities.
Faith Tabernacle Church	Place of worship with a majority African American congregation.	Displacement of place of worship building	This place of worship leases the building. TxDOT will assign a relocation assistance counselor who will provide current listings of other available properties (if requested).
Greater Mount Olive Missionary Baptist Church	Place of worship with a majority African American congregation	Displacement of place of worship that serves African American community	<p>TxDOT is proceeding with advance acquisition of this property; advance acquisition would provide additional time for renovation or relocation of the place of worship. At the request of the place of worship, a memorial plaque will be placed at their current location.</p> <p>TxDOT will assign a relocation assistance counselor who will provide current listings of other available properties (if requested).</p>

Facility and Location	Description	Potential Impacts	Proposed Mitigation
UT Health Women Infants Children (WIC) Program (Greenspoint Clinic)	Low-income services for women and children	Loss of some parking spaces, and one adjacent bus stop	TxDOT will communicate with adjacent property owners and tenants through TxDOT's PIO during construction activities. Another bus stop located closer to this facility would not be impacted by the proposed project and could be used as an alternative.
Texas Health and Human Services	Government office providing health and social services for seniors, disabled persons, children, and underserved individuals and families	Displacement of government office that offers human health, protective, and social services	If the agency is a tenant at the time of property acquisition and chooses to relocate, TxDOT will reimburse moving costs and certain related expenses. Tenant occupants will be provided a relocation notification package and booklet explaining tenant entitlements under the relocation assistance program.
Helping Hands Charity (Sloan Memorial United Methodist Church)	Provides community services to the Greater Fifth Ward neighborhood, local schools, and others in need in the surrounding community	Displacement of organization that serves low-income individuals and local community	TxDOT is proceeding with advance acquisition of the property; advance acquisition would provide additional time for relocation and reestablishment. During the relocation process, the place of worship/Helping Hands Center will be able to remain in the existing facility for an amount of time negotiated with TxDOT. TxDOT will assign a relocation assistance counselor who will provide current listings of other available properties (if requested). Sloan Memorial United Methodist is planning to rebuild the church on a portion of the property that would not be acquired by TxDOT. Consequently, the Helping Hands Charity could relocate to the new church building or move its building to a location on the property that would not be impacted by right-of-way acquisition.
Loaves and Fishes Magnificat Houses Ministries	Soup kitchen for low-income and homeless individuals; temporary emergency housing for abused women and children.	Displacement of facility that serves homeless and low-income individuals	TxDOT is proceeding with advance acquisition of the property; advance acquisition would provide additional time for relocation and reestablishment. During the relocation process, the service provider will be able to remain in the existing facility for an amount of time negotiated with TxDOT. TxDOT will assign a relocation assistance counselor who will provide current listings of other available properties (if requested).
SEARCH Homeless Services	Non-profit organization that helps educate, employ, and house homeless individuals and families	Displacement facility that serves homeless and low-income individuals	TxDOT is proceeding with advance acquisition of the property; advance acquisition would provide additional time for relocation and reestablishment. During the relocation process, the service provider will be able to remain in the existing facility for an amount of time negotiated with TxDOT. TxDOT will assign a relocation assistance counselor who will provide current listings of other available properties (if requested).
Fatima House	An Apostolic organization for the Catholic Church that does ministry work in the community including homeless in the neighborhood	Displacement of building, where ministry work for homeless is conducted and services are held for the Legion of Mary Ministry	TxDOT has offered the opportunity to request advance acquisition of property. TxDOT will assign a relocation assistance counselor to Fatima House and will provide current listings of other available properties (if requested).

Facility and Location	Description	Potential Impacts	Proposed Mitigation
Goodwill Missionary Baptist Church	Place of worship with a majority African American congregation	Displacement of place of worship that serves African American community	TxDOT is proceeding with advance acquisition of the property; advance acquisition would provide additional time for relocation and reestablishment. TxDOT will assign a relocation assistance counselor who will provide current listings of other available properties (if requested).
Kelly Village	Low-income housing and residential park	Displacement of multi-family residential units, a portion of the Kelly Village private park used by apartment residents, and impacts to three bus stops adjacent to I-10.	TxDOT is in coordination with the HHA on acquisition of the property and relocation on the residents of Kelly Village with the intent of constructing new housing in the vicinity of the existing Kelly Village.
Clayton Homes	Low-income housing	Displacement of 296 multi-family residential units	TxDOT is in coordination with the HHA on acquisition of the property and relocation on the residents of Clayton Homes so as to provide for the relocation of over 70 percent of replacement housing to be within one mile of the existing location
Midtown Terrace Suites	Multi-family residential units for homeless veterans, which many have disabilities	Displacement of one building with 60 multi-family residential units. The multi-family complex has a total of 286 units	TxDOT is proceeding with advance acquisition of the property. During the relocation process, they will be able to remain in the existing facility for the agreed amount of time negotiated between the property owner and TxDOT. Replacement units will be built in the same complex.
Temenos Place Apartments II	Affordable housing for low-income persons, homeless individuals, and those with disabilities.	Displacement of 80 multi-family residential units and loss of training and rehabilitation services	TxDOT is proceeding with advance acquisition of the property. During the relocation process, they will be able to remain in the existing facility for the agreed amount of time negotiated between TxDOT and the property owner. TxDOT has executed an agreement with the Temenos Place Apartments II management so that all reasonable efforts will be made to replace the 80 residential units affected by the project within a one-mile radius of the existing Temenos II facility.
Peavy Neighborhood Center	A senior's center that provides programs in the Fifth Ward neighborhood	Possible construction related impacts and noise impacts	TxDOT will communicate with adjacent property owners through TxDOT's PIO during construction activities. A noise barrier is proposed to reduce noise impacts to the center.
Law Harrington Senior Living	Affordable senior-housing (under construction) for low-income seniors	Future potential noise and construction impacts	TxDOT will communicate with adjacent property owners and tenants through TxDOT's PIO during construction activities. A noise barrier is proposed to reduce noise impacts to the center.
Consulate General of Mexico (Mexican Consulate)	Official foreign government facility that assists and protects Mexican persons living and traveling in United States	Displacement of the Mexican Consulate, which is owned by the Mexican government	TxDOT is proceeding with advance acquisition of the Mexican Consulate property, and has assisted the Consulate to find a place to relocate.

Facility and Location	Description	Potential Impacts	Proposed Mitigation
Huynh Vietnamese Restaurant	Asian business located near St. Emanuel Street and south of Chartres Street (historically China/Vietnamese business area)	Displacement of restaurant with Asian business owner	TxDOT has offered the opportunity to request advance acquisition of property. TxDOT will provide the business with a relocation notification package and will assign a relocation assistance counselor.
Kim Son Restaurant	Asian business located near St. Emanuel Street and south of Chartres Street (historically China/Vietnamese business area)	Displacement of restaurant Asian business owner	TxDOT has offered the opportunity to request advance acquisition of property. TxDOT will provide the business with a relocation notification package and will assign a relocation assistance counselor who will provide relocation information.
Yen Huong Bakery	Chinese/Vietnamese wholesale bakery owned by LEP property owner (historically China/Vietnamese business area)	Displacement of Chinese/Vietnamese bakery owned by LEP property owner	TxDOT offered the opportunity for advance acquisition during a meeting and by letter. TxDOT will assign a relocation assistance counselor who will provide current listings of other available properties (if requested).

*The owner of North Houston Birth Center plans to relocate a new location in the Independence Heights neighborhood in November 2020.

5.10 Limited English Proficiency

TxDOT has made accommodations for individuals speaking Spanish (the dominant language of LEP individuals in the project area) during project development, to ensure that opportunities for community input in the NEPA process have been and would continue to be provided. For the public meetings and hearing, public notices were published in English and Spanish in local newspapers including the Houston Chronicle, Defender, and La Voz (a Spanish language newspaper). Meeting notices were provided in English and Spanish and mailed to adjacent landowners, community organizations, elected officials, government officials, civic groups, and published on the project website. Project newsletters were provided in English and Spanish. The executive summary of the Final EIS will be prepared in English and Spanish, and the notice of availability and project website will provide information in other languages on how to contact TxDOT for assistance with language interpretation. At this time, the information is planned to be in Spanish, Swahili, Haitian Creole, Vietnamese, and Chinese, and other languages will be added if other needs are identified.

The project team had staff available to provide translations during public meetings and the public hearing as needed, and the presentations, handouts, comment forms, and some exhibits boards were translated into Spanish and posted to the project website. Several informational pamphlets related to right-of-way acquisition and relocation assistance were also provided at meetings and hearing and are posted on the project website. Materials were posted on the project website prior to the public meetings and hearing, and all materials remain on the website. The mailed notices and newspaper announcements provided information on how citizens could request language interpreters. Although no advance requests for interpreters were received, some meeting attendees preferred speaking Spanish and they were directed to and assisted by the team members who were fluent in Spanish.

1 In May 2017, HHA held meetings at Clayton Homes and Kelly Village. Residents were provided
2 with information on the overall project, units that would be impacted including portions of the
3 private park at Kelly Village, relocation services, and housing resources. A question and
4 answer session followed the formal presentation. In addition, information was provided to
5 residents on relocation services and housing resources. HHA provided simultaneous
6 translation in Swahili, Spanish, and Haitian Creole.

7 In May 2017, HHA held on site informational meetings for residents of Clayton Homes and
8 Kelly Village. The meetings were attended by residents and various staff from TxDOT and HHA.
9 Residents were provided with information on the overall project, project impacts, relocation
10 services, and housing resources. Question and answer sessions followed the formal
11 presentations. HHA provided simultaneous translation in Swahili at the meeting at Kelly
12 Village and simultaneous translation in Swahili, Spanish, and Haitian Creole at the meeting at
13 Clayton Homes.

14 Primarily within Segment 1, several businesses and places of worship have Spanish-language
15 names or signs. In Segment 3, a few businesses with Asian-language names are located on
16 the east side of Downtown, including a bakery and restaurants that would be displaced.
17 During community outreach, TxDOT contacted these facilities to discuss the project and get
18 input on potential impacts on these business owners, as shown in Appendix A. Example of a
19 place of worship with a non-English language name is Centro Cristiano Church. TxDOT is in the
20 process of advance acquisition of this place of worship and their associated school Alpha and
21 Omega School. Advance acquisition would allow the school and place of worship to rebuild
22 prior to displacement and without disruption to classes or services. The TxDOT Study Team
23 also met with the owners of Yen Huong Bakery, which makes specialty deserts and pastries
24 for the Vietnamese and Chinese community. This bakery is owned by an Asian property owner
25 who speaks limited English. TxDOT met with the owner and English-speaking brother to
26 discuss the option of applying for advance acquisition of the property. Outreach to these
27 businesses and places of worship is discussed in Appendix A.

28 Additional information about LEP accommodations and TxDOT's efforts to promote inclusive
29 public involvement during development of this project is included in Appendix A, Section 3.

6 MITIGATION AND COMMITMENTS

This Section summarizes TxDOT's mitigation and other commitments related to the community impacts of the Preferred Alternative. FHWA regulations require that mitigation measures presented as commitments in the EIS be incorporated into a project (FHWA and FTA, 23 CFR § 771.109[b] and 23 CFR § 771.125[a][1]). TxDOT will implement the commitments and mitigation as part of the project development process and into construction as applicable. Where implementation measures may be performed by a third party (e.g., construction contractor), TxDOT will direct the implementation through contracting provisions, specifications and agreements. During construction, TxDOT will oversee and monitor the performance and effectiveness of the mitigation measures.

Table 6-1 is a summary of mitigation measures and commitments required by Federal laws, State laws, and TxDOT's rules (Texas Administrative Code).

Table 6-2 is a summary of mitigation measures and commitments not required by policy or regulation.

Table 6-3 is a summary of other beneficial commitments.

TxDOT will use these tables as mitigation-tracking spreadsheets to follow the project through the design, construction, and maintenance phases. The tables will be updated as the project progresses through future project phases. Mitigation measures and commitments and other beneficial commitments are specific and include information regarding responsibility, monitoring and performance standards (where applicable), and schedules for implementation.

Table 6-1: Mitigation and Commitments Required by Policy/Regulation

	Category	Impacts	Mitigation and Commitments	Timing/phase of construction
1.	Community Impacts- Travel Patterns and Access	Temporary road closures and traffic detours	Provide safe and efficient connections to and around neighborhoods during construction for all modes of transportation, including bicycles and pedestrians. Provide advanced notice of temporary road closures and traffic detours. Maintain access to properties during construction.	Final design/during construction
2.	Community Impacts-Travel Patterns and Access	Temporary impacts to pedestrian and bicycle access to schools	Ensure safe pedestrian and bicycle routes to schools are provided during construction.	During construction
3.	Community Impacts- Traffic Noise	Traffic noise impacts near residential areas, parks, open spaces, and recreational areas	Construct noise barriers, where feasible, reasonable, and approved by landowners adjacent to the proposed noise barriers. Any subsequent project design changes may require a re-evaluation of preliminary noise barrier proposals. The final decision to construct the proposed noise barriers will not be made until completion of the proposed project design, utility evaluation, and polling of adjacent property owners during traffic noise workshops.	Final design/during construction
4.	Community Impacts- Construction Noise	Temporary noise impacts during construction	Implement best management practices (BMPs) to minimize noise during construction, as per FHWA's Highway Construction Noise Handbook (2006). Minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.	During construction
5.	Transportation- Hike and Bike Trails	Temporary trail closures and detours during construction	Accommodate or replace existing trails and allow for planned future trails. Coordinate with the City of Houston to provide advanced notice of temporary trail closures and detours during construction.	Final design/pre-construction/during construction
6.	Transportation- Bus Services	Temporary displacement of bus stops during construction	In cooperation with METRO, install temporary bus stops outside of the proposed right-of-way and as close as possible to the original bus stop location. In cooperation with METRO, notify riders at least one week in advance of temporary relocation or closure of bus stop.	Pre-construction/ during construction

	Category	Impacts	Mitigation and Commitments	Timing/phase of construction
7.	Transportation-Bus Services	Bus stop displacements and relocations	In cooperation with METRO and City of Houston, design new and re-established bus stop locations in accordance with the Americans with Disabilities Act requirements.	Final design
8.	Transportation-Railroad Operations	Temporary impacts to freight rail service from the construction of railroad bridge structures and/or the temporary relocation of track operations	Coordinate with UPRR, BNSF, and HB&T for phasing of improvements to minimize disruptions to railroad operations.	Planning Pre-construction/ during construction
9.	Safety	Potential temporary impacts to emergency response travel time during construction	Coordinate with city and county officials to minimize disruptions to emergency services during construction.	Final design/pre-construction/during construction
10.	Relocations and Displacements	All Displacements	Provide language translation services for displaced individuals, families, businesses, and nonprofit organizations.	During property acquisition
11.	Relocations and Displacements	All Displacements	Relocation Assistance <ul style="list-style-type: none"> - Assign relocation assistance counselor that will 1) determine need for assistance and 2) provide current listings of other available replacement housing. - Provide counseling to get assistance from other available sources to minimize hardships in adjusting to new location. - Provide information concerning other federal, state and local housing programs offering assistance. 	During property acquisition
12.	Relocations and Displacements	Owner occupants and tenants of less than 90 days	Compensation Owner-occupants of less than 90 days and tenants may be eligible for down-payment assistance and related incidental expenses, not to exceed the amount of the approved rental assistance supplement. Incidental expenses for replacement housing include the reasonable costs of loan applications, recording fees and certain other closing costs.	During property acquisition
13.	Relocations and Displacements	All owner occupant displacements (residences, businesses, schools, places of worship and other nonprofit facilities)	Notification Provide property owners with notification of TxDOT's intent to acquire an interest in their property, including a written offer letter of just compensation specifically describing those property interests. <ul style="list-style-type: none"> - To the greatest extent possible, property owners have a minimum of 90 days from date of written notice before TxDOT will acquire property 	During property acquisition

	Category	Impacts	Mitigation and Commitments	Timing/phase of construction
14.	Relocations and Displacements	All tenant occupant displacements (residences, businesses, schools, places of worship and other nonprofit facilities)	Notification Provide tenant occupants with relocation notification package. Assign relocation assistance counselor. Provide a relocation booklet explaining tenant entitlements under the relocation assistance program. <ul style="list-style-type: none"> - To the greatest extent possible, tenants have a minimum of 90 days from date of written notice before TxDOT will acquire property. 	During property acquisition
15.	Relocations and Displacements	Residential displacements- owner and tenant occupants	Relocation Assistance Assure residents will not be required to move unless at least one comparable replacement dwelling is available.	During property acquisition
16.	Relocations and Displacements	Residential displacements- owner occupants	Compensation Compensate any person(s) whose property needs to be acquired, in accordance with the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended; 49 CFR Part 24, Subparts C through F; Title VIII of the Civil Rights Act of 1968 (Federal Fair Housing Act); Housing and Urban Development (HUD) Amendment Act of 1974, and TxDOT policies and procedures. <ul style="list-style-type: none"> - Provide reimbursement of moving costs and certain related expenses incurred in moving. - Provide just compensation for property. - Provide Replacement Housing Payments as Purchase Supplements or Down Payment Assistance to purchase comparable decent, safe, and sanitary replacement dwelling. 	During property acquisition
17.	Relocations and Displacements	Residential Displacements tenant occupants	Compensation Compensate any person(s) whose property needs to be acquired, in accordance with the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended; 49 CFR Part 24, Subparts C through F; Title VIII of the Civil Rights Act of 1968 (Federal Fair Housing Act); Housing and Urban Development (HUD) Amendment Act of 1974, and TxDOT policies and procedures. <ul style="list-style-type: none"> - Provide reimbursement of moving costs and certain related expenses incurred in moving. - Provide compensation for comparable replacement dwelling that is decent, safe, and sanitary. - Provide Rental Assistance Supplement to eligible persons for the increased cost of renting and occupying a decent, safe and sanitary replacement dwelling. 	During property acquisition

	Category	Impacts	Mitigation and Commitments	Timing/phase of construction
18.	Relocations and Displacements	Residential displacements- Public Housing Units	<p>Relocation Assistance Assist residents at public housing, as defined by the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended; 49 CFR Part 24, Subparts C through F, to find comparable replacement housing.</p> <p>Assure tenant occupant will not be required to move unless at least one comparable replacement dwelling is available.</p>	During property acquisition
19.	Relocations and Displacements	Residential displacements Tenants using HHA Housing Choice Voucher Program	<p>Relocation Assistance Assist residents at public housing, as defined by the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended; 49 CFR Part 24, Subparts C through F, to find comparable replacement housing.</p> <p>Assure tenant occupant will not be required to move unless at least one comparable replacement dwelling is available.</p>	During property acquisition
20.	Relocations and Displacements	Non-Residential Displacements (businesses, schools, places of worship and other nonprofit facilities)	<p>Compensation Compensate any person(s) whose property needs to be acquired, in accordance with the Uniform Relocation and Real Property Acquisition Policies Act of 1970, as amended; 49 CFR Part 24, Subparts C through F; and, TxDOT policies and procedures.</p> <ul style="list-style-type: none"> - Provide reimbursement of moving costs and certain related expenses incurred in moving. - Personal Property- Provide payment for the actual direct loss of tangible personal property or the purchase of substitute personal property that is incurred as a result of the move or discontinuance of the operation. - Searching Expenses for Replacement Property- Reimburse for actual reasonable expenses incurred in searching for a replacement property, not to exceed \$2,500. - Reestablishment Expenses for Replacement Site- A small business (not more than 500 employees), may be eligible to receive a payment, not to exceed \$25,000 for expenses actually incurred in relocating and reestablishing at a replacement site. 	During property acquisition

	Category	Impacts	Mitigation and Commitments	Timing/phase of construction
21.	Relocations and Displacements	Non-Residential Displacements (businesses, schools, places of worship and other nonprofit facilities)	Relocation Assistance <ul style="list-style-type: none"> - Assign relocation assistance counselor to help with relocation planning. - Explore and provide advice about possible sources of funding and assistance from other local, state and federal agencies. 	During property acquisition
22.	Relocations and Displacements	Medical facilities Displacements	Reimburse cost of relicensing fees and medical licenses at new location.	During property acquisition
23.	Relocations and Displacements	Billboards and Advertisement Sign Displacements	Compensation <ul style="list-style-type: none"> - Provide relocation payment for moving and related expenses. - Reimburse for actual reasonable expenses incurred in searching for a replacement sign site, not to exceed \$2,500. 	During property acquisition

Table 6-2: Mitigation and Commitments Not Required by Policy/Regulation

	Category	Impacts	Mitigation and Commitments*	Timing/phase of construction
1.	Community Impacts	Long-term traffic noise impacts	TxDOT plans to use longitudinal tining on all main lanes and frontage roads. Longitudinal tining creates shallow grooves in a roadway surface, running lengthwise, which decreases noise compared to transverse tining. Potential noise reductions from use of longitudinally-tined pavement have not be quantified for this project and are not accounted for in the analysis included in the Traffic Noise Technical Report.	During construction
2.	Community Impacts	Visual and aesthetic impacts	Design bridges in consideration of visual aesthetics and minimize the number of support columns for elevated roads. Coordinate with the community to integrate aesthetic enhancements in the project design.	Final Design
3.	Recreational Resources- Open Spaces	Impaired view of Downtown skyline from greenway area near Hogg Park, due to proposed elevated highways	Design bridges in consideration of visual aesthetics. Optimize open space by aligning substructure for multiple roadways where feasible.	Final design
4.	Recreational Resources- Open Spaces	Impaired views of the Downtown skyline from White Oak Bayou Greenway, due to proposed elevated highways	Design bridges in consideration of visual aesthetics. Evaluate the use of the proposed storm water detention areas in the area as potential green spaces with opportunities for aesthetic enhancements under the elevated sections of the roadways in this area. Improve viewshed from University of Houston campus to Downtown skyline by moving I-10 to north of campus.	Final design
5.	Transportation— Hike and Bike Trails	Relocate portion of the proposed hike and bike trail along Little White Bayou	Modify alignment of existing pedestrian/bicycle trail along the west side of I-45 south of Link Road to provide a connection to the proposed sidewalk/trail adjacent to the southbound I-45 frontage road.	Final design
6.	Transportation- Transit Services	Temporary road closures and traffic detours may have impacts on access to public transit services	Coordinate with METRO for phasing of improvements to minimize disruptions to transit operations. Limit periods of disruption to the existing HOV lane and coordinate with METRO to define the limits so they can be planned for and communicated with the public. Maintain transit services by utilizing shoofly and temporary track alignments with very limited outages for connections and cut-overs.	Final design/pre-construction/ during construction

	Category	Impacts	Mitigation and Commitments*	Timing/phase of construction
7.	Transportation-Bus Services	Temporary road closures and traffic detours may have impacts on access to bus services and bus stops	<p>Coordinate with METRO for review of the 30 percent design plans.</p> <p>Coordinate with METRO at least 2 to 3 weeks in advance of construction to minimize disruptions to services and schedules.</p> <p>Conduct follow-up meetings with METRO as requested.</p> <p>METRO will install temporary bus stops outside of the proposed right-of-way and as close as possible to the original bus stop location.</p>	Final design/pre-construction/during construction
8.	Transportation-Bus Services	Temporary road closures and traffic detours may have impacts on access to bus services	<p>Coordinate with METRO for notification to riders at least one week in advance of any closures, delays, or modifications in bus routes, and bus stop relocations or closures. Additional public notifications by METRO would include:</p> <ul style="list-style-type: none"> - A list of detours and changes to bus stops posted on METRO's website - Notices at bus stops with new bus stop location and bus route map - Information on social media (Twitter, Facebook); notifications on social media are typically posted one month in advance - Mail-out to riders registered to receive notifications <p>Conduct follow-up meetings with METRO as requested.</p>	Pre-construction/during construction
9.	Transportation-Railroad Operations	Temporary impacts to railroad tracks that parallel Winter Street and bridge over I-10/I-45 and White Oak Bayou	<p>Construct a shoofly (a temporary track) that offsets the existing bridge and serves as a detour route for rail traffic during construction.</p> <p>Schedule tie in connections to rail mainline with sufficient advance notice to allow railroad companies to plan for alternative routes.</p>	Pre-construction/during construction
10.	Transportation- Accessibility	Removal of the North Street bridge across I-45	<p>Provide improved pedestrian-bicycle accommodations on the North Main Street bridge for travel between Near Northside and Greater Heights. Sidewalks would be added along the I-45 frontage roads.</p> <p>Maintain communication with Near Northside neighborhood and Travis Elementary School regarding schedule for demolition of North Street bridge.</p>	During construction

	Category	Impacts	Mitigation and Commitments*	Timing/phase of construction
			Ensure safe pedestrian-bicycle facilities are provided at North Main Street during construction.	
11.	Transportation - Accessibility	Loss of direct access from East Downtown to central Downtown via Polk Street at US 59/I-69	Reconstruct Hamilton Street to be a continuous southbound street adjacent to US 59/I-69 between Commerce Street and Leeland Street, which would reestablish connectivity across US 59/I-69 on other streets between central Downtown and the east side of Downtown: Dallas, Lamar, McKinney, and Walker streets.	During construction
12.	Community Impacts - <i>Environmental Justice</i>	Noise and air quality impacts (residents in minority and low-income areas)	To mitigate for potential short-term construction dust and/or noise impacts, TxDOT will develop a program to provide weatherization and energy efficiency for qualifying low-income single-family residences.	Pre-construction/during construction
13.	Community Impacts - <i>Environmental Justice</i>	Noise and air quality impacts (schools)	Coordinate with schools to address construction phasing and effects during STAAR testing and other sensitive times.	Pre-construction/ during construction
14.	Relocations and Displacements- <i>Environmental Justice</i>	Residential displacements (residents in low-income areas)	Coordinate with the City of Houston and affordable housing providers to identify opportunities to build affordable housing in same neighborhoods where residents would be displaced. TxDOT is committing an amount of no less than \$27 million towards developing affordable housing in the neighborhoods most affected by the proposed project.	During property acquisition
15.	Relocations and Displacements- <i>Environmental Justice</i>	Midtown Terrace Suites – 60- multi-family residential units would be displaced	TxDOT is proceeding with advance acquisition of the property. During the relocation process, residents will be able to remain in the existing facility for an agreed amount of time negotiated between the property owner and TxDOT. Replacement units will be built in the same complex.	During property acquisition
16.	Relocations and Displacements- <i>Environmental Justice</i>	Temenos Place Apartments II	TxDOT is proceeding with advance acquisition of the property. During the relocation process, residents will be able to remain in the existing facility for an agreed amount of time negotiated between TxDOT and the property owner. TxDOT has executed an agreement with the Temenos Place Apartments II management so that all reasonable efforts will be made to replace the 80 residential units affected by the project within a one-mile radius of the existing Temenos II facility.	During property acquisition
17.	Relocations and Displacements- <i>Environmental Justice</i>	Housing units at Clayton Homes and Kelly Village	TxDOT is in coordination with the HHA on acquisition of the property and relocation of the residents of Clayton Homes with the intent of constructing over 70 percent of replacement housing within one mile of the existing Clayton Homes location.	During property acquisition

	Category	Impacts	Mitigation and Commitments*	Timing/phase of construction
			TxDOT is in coordination with the HHA on acquisition of the property and relocation of the residents of Kelly Village with the intent of constructing new housing in the vicinity of the existing Kelly Village.	
18.	Relocations and Displacements- <i>Environmental Justice</i>	Displacement of homeless persons living in project right-of-way	Coordinate with the City of Houston and homeless services providers to develop a plan to assist in the relocation of the homeless in a sensitive way.	Pre-construction
19.	Relocations and Displacements- <i>Environmental Justice</i>	Displacement of places of worship that own their property and serve high-minority or low-income populations	In addition to the required mitigation measures listed in Table 6-1, TxDOT will: <ul style="list-style-type: none"> - Offer the opportunity to request advance acquisition of property. - Allow occupants, during the relocation process, to remain in the existing facility for an agreed amount of time negotiated between the property owner and TxDOT. 	During property acquisition
20.	Relocations and Displacements- <i>Environmental Justice</i>	Greater Mount Olive Missionary Baptist Church	TxDOT is proceeding with advance acquisition of this property; advance acquisition would provide additional time for relocation of the place of worship. TxDOT will work with the community to provide a “pocket park” near the current location of the Greater Mount Olive Missionary Baptist Church along with a plaque or other suitable commemoration of the church’s history in the neighborhood.	During property acquisition; During construction
21.	Relocations and Displacements- <i>Environmental Justice</i>	Displacement of non-profit organizations and service providers that serve high-minority or low-income populations	In addition to the required mitigation measures listed in Table 6-1, TxDOT will: <ul style="list-style-type: none"> - Offer the opportunity to request advance acquisition of property. - Allow occupants, during the relocation process, to remain in the existing facility for an agreed amount of time negotiated between the property owner and TxDOT. 	During property acquisition

	Category	Impacts	Mitigation and Commitments*	Timing/phase of construction
22.	Relocations and Displacements- <i>Environmental Justice</i>	Displacement of medical offices that serve low-income or minority populations located in the building at 7007 North Freeway. Tenants include: North Houston Birth Center, LLC**, Unicare MRI & Diagnostic Center Houston Children's Dental Center and other medical offices	TxDOT is proceeding with advance acquisition of the property. Tenants will be assigned a relocation assistance counselor who will provide relocation information and assistance including tenant entitlements under TxDOT relocation assistance program.	During property acquisition
23.	Relocations and Displacements- <i>Environmental Justice</i>	Displacement of the Consulate General of Mexico (Mexican Consulate)	TxDOT is proceeding with advance acquisition of the Mexican Consulate property, and has assisted the Consulate to find a place to relocate.	Prior to construction
24.	Environmental Justice	Temporary road closures and traffic detours may impact access to businesses and service providers that serve environmental justice facilities	Public Involvement Officer will conduct public outreach and provide notification of temporary road closures and traffic detours via social media. Maintain access to properties during construction.	Pre-construction/during construction
25.	Environmental Justice	Noise impacts	Aesthetic walls are tentatively proposed in environmental justice areas where they would be effective for noise mitigation (reduce traffic noise levels by at least 3 dB(A)). Proposed locations may change during final design of the facility. Ultimately, the decision whether to construct the walls will be determined by a vote of the adjacent property owners.	During construction
26.	Economic Conditions- Employment and Income	Business displacements and employment loss	Facilitate opportunities to promote hiring individuals from the local communities, for general employment and for project construction, such as job fairs. Conduct at least two job fairs in each segment during the construction phase.	Pre-construction/during construction
27.	Economic Conditions- Employment and Income	Huynh Vietnamese Restaurant	TxDOT has offered the opportunity for advance acquisition of property; owner has not responded.	
28.	Economic Conditions- Employment and Income	Kim Son Restaurant/Downtown	TxDOT has offered the opportunity for advance acquisition of property; owner has not responded.	
29.	Economic Conditions- Employment and Income	Yen Huong Bakery	TxDOT has offered the opportunity for advance acquisition of property; owner has not responded.	

1 *Some of these items will be subject to changes and updates as project development and coordination continues. The most updated version of the project mitigation and
2 commitments will be found in the Record of Decision.

3 * *The owner of North Houston Birth Center plans to relocate a new location in the Independence Heights neighborhood in November 2020.

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Table 6-3: Other Beneficial Commitments

	Category	Action	Commitments*	Timing/phase of construction
1.	Transportation-Hike and Bike Trails	Accommodate future bike trails	Coordinate with the City of Houston to accommodate space for future bike trails as shown on the City of Houston Bike Plan.	Final design
2.	Transportation-Hike and Bike Trails	Improve pedestrian access from Independence Heights neighborhood to Roosevelt Elementary School	Include a sidewalk within the right-of-way on the south side of Stokes Street to accommodate a trail connection.	Final design
3.	Transportation-Hike and Bike Trails	Improve greenspace along Little White Oak Bayou with connecting trails to Woodland Park and Moody Park	Provide an opening at Little White Oak Bayou for a trail to connect Woodland Park and Moody Park.	Final design
4.	Transportation-Hike and Bike Trails	Accommodate future trails along Little White Oak Bayou	TxDOT will propose an opening conducive to bicycle/pedestrian crossings at Little White Oak Bayou under I-45 just north of Patton St. TxDOT will propose an opening conducive to bicycle/pedestrian crossings at Little White Oak Bayou under I-610. The size of the openings will be coordinated with Harris County Flood Control District (HCFCD), taking into account upstream and downstream impacts. TxDOT will continue to work with HCFCD on these elements during detailed design.	Final design
5.	Transportation-Hike and Bike Trails	Aesthetic improvements along bicycle and pedestrian pathways	Provide aesthetic improvements along Heights Bike Trail between Taylor Street and Main Street. Coordinate with City of Houston to determine improvements.	Final design/during construction
6.	Transportation-Bus Services	Allow for expanded bus service in the I-45 corridor	Include four MaX lanes on I-45 (two lanes in each direction) that would provide the opportunity for METRO to expand bus service in the corridor.	Final design
7.	Transportation-Bus Services	Allow for improved bus service in the I-45 corridor	Add two-way METRO T-ramp north of the Shepherd Drive and Veteran's Memorial Drive intersection that would connect directly to the Shepherd Park & Ride facility.	Final design
8.	Transportation - Accessibility	Improve east-west access across I-45	Add overpass at the I-45 and Blue Bell Road intersection to allow for connectivity of Blue Bell Road under I-45.	During construction
9.	Transportation - Accessibility	Reduce cut-through traffic in Independence Heights neighborhood	Remove the METRO HOV T-ramp between Crosstimbers Street and the HB&T railroad tracks. Replace the METRO HOV T-ramp with northbound and southbound MaX lanes direct connectors to I-610.	During construction
10.	Transportation - Accessibility	Reduce truck traffic in Near Northside residential areas	Acquire Love's Truck Stop property for storm water detention area.	During property acquisition

	Category	Action	Commitments*	Timing/phase of construction
11.	Transportation - Accessibility	Maintain connectivity between Near Northside and Central Business District and reduce at-grade railroads railroad crossings	Reconstruct Rothwell Street and Providence Street as grade-separated underpasses at the railroad tracks between McKee Street and Jensen Drive.	During construction
12.	Transportation - Accessibility	Accommodate the City of Houston's future plan for the extension of San Jacinto Street	Coordinate with the City of Houston so that the NHHIP allows for the future extension of San Jacinto Street to the north.	Final design
13.	Transportation - Accessibility	Improve local connectivity in Midtown	Maintain Chenevert Street as a one-way southbound street between Stuart Street and Holman Street. Maintain local street connectivity at Francis Street.	Final design
14.	Transportation - Accessibility	Connect the Polk Street bike trail to the Columbia Tap Rail-Trail	Reroute dedicated bike lanes on Polk Street to follow the proposed Hamilton Street and connect to the Columbia Tap Rail-Trail via Walker Street. Reserve 20-foot wide footprint for rerouted Polk Street bike lane.	Final design/during construction
15.	Transportation - Accessibility	Improve bike/pedestrian access between Fourth Ward and Downtown	Depress the Downtown connectors on the west side of Downtown from West Dallas Street to south of Andrews Street. Add at-grade crossings over the proposed depressed direct connectors at Andrews Street for bike/pedestrian access from the Fourth Ward to Downtown.	During construction
16.	Transportation - Accessibility	Maintain Bus/HOV lane connection to Downtown	Add dedicated bus/HOV lane to the I-10 express lanes with direct access to Smith Street and Louisiana Street to replace the existing Downtown HOV connector to Heiner from I-10.	Final design
17.	Transportation - Accessibility	Improve highway signage	Supplement existing southbound guide signs for the Quitman Street/Lyons Avenue exit (Exit 133A).	Final design/during construction
18.	Transportation - Accessibility	Improve highway signage	Improve approach signing and driver communication heading northbound on US 59/I-69 in the area approaching the exit to Spur 527.	During construction
19.	Transportation - Accessibility	Improved access and connectivity between Midtown and Museum Park	Construct at-grade highway caps at three bridged areas to support pedestrian activity in the area. Bridged area will include wider sidewalks and bicycle lanes.	During construction
20.	Visual and Aesthetics	Aesthetic improvements along highways	Replace Montrose Street bridge LED lighting.	During construction
21.	Visual and Aesthetics	Aesthetic improvements along highways	Coordinate with Greater Northside Management District to incorporate Texas Logo and Directional Sign Program for the Quitman Street/Lyons Avenue exit and south of Quitman Street on the I-69 southbound frontage road.	Final design/during construction

	Category	Action	Commitments*	Timing/phase of construction
22.	Visual and Aesthetics	Aesthetic improvements along highways	Conduct the design of bridges over Sam Houston Park and Buffalo Bayou as a collaboration between the management districts or neighborhood groups and TxDOT.	Final design
23.	Community Impacts – Environmental Justice	Monitoring/Reporting	For a minimum of five years during construction, fund ambient air monitoring near the right-of-way at one location in Segment 2 and one location in Segment 3.	During construction
24.	Air Quality	Dust Control Measures	The potential impacts of PM emissions will be minimized by using fugitive dust control measures contained in standard specifications.	During construction
25.	Relocations and Displacements	Group/Program Informational Workshops	<p>Conduct workshops with residential property owners and renters who would be displaced to provide information:</p> <ul style="list-style-type: none"> • Explaining the acquisition process • Explaining the relocation process • Explaining the appraisal process • Title Information and review of documents • Property tax & exemption impacts • Moving and move planning • First Time Homebuyer seminars • Escrow process and title clearing • How to get social services and benefits • How to select a real estate agent • How to check your credit and improve your score • Household budgeting • Household maintenance 	During property acquisition

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2 *Some of these items will be subject to changes and updates as project development and coordination continues. The most updated version of the project mitigation and commitments will be found in the Record of Decision.

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